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June 15, 2026

VIA E-MAIL

Eric Worrall
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Re: Somerville
50 Tufts Street Disposal Site
RTN 3-0023246
NON-NE-0019585

Dear Mr. Worrall:

Enclosed with this letter is the Phase II Comprehensive Site Assessment Addendum report (the "Phase II Addendum") of UniFirst Corporation ("UniFirst") for the site located at 50 Tufts Street, Somerville, Massachusetts (the "Site"), as prepared by UniFirst's environmental consultant GEI Consultants, Inc. ("GEI") and executed by Licensed Site Professional Ileen Gladstone, P.E., LSP, of GEI. The Phase II Addendum was called for by Massachusetts Department of Environmental Protection's ("MassDEP") Notice of Audit Findings and Notice of Noncompliance dated December 12, 2024 (the "NAFNON").[1]

The Phase II Addendum provides the results of work completed to date, which collectively shows that the lateral and vertical extent of the dissolved phase plume is well characterized, that indoor air conditions of No Significant Risk remain at the residential properties identified by MassDEP in the NAFNON, and that the Monitored Natural Attenuation ("MNA") portion of the remedy is working. The NAFNON called for UniFirst to collect additional subsurface data to better define the nature and extent of groundwater contamination at the Site. UniFirst has completed this additional delineation work, and it confirms that the existing plume is stable and that the disposal site boundaries remain accurate. The NAFNON called for UniFirst to collect additional indoor air data from

[1] The Phase II Addendum is timely submitted consistent with the extension of the deadlines in the NAFNON described in the letter from MassDEP dated March 4, 2026.

fifteen properties within the Site boundary where vapor assessment activities had not occurred in a number of years. UniFirst has completed this additional investigation where GEI could obtain access (11 of 15 properties), and the results demonstrate that indoor air conditions at all properties where access was permitted meet the No Significant Risk standard. Finally, the NAFNON questioned the existence of support for the effectiveness of the MNA remedy. The Phase II Addendum includes an extensive MNA effectiveness analysis that shows unequivocally that degradation is occurring faster than any residual source contributions, that the dissolved phase plume is shrinking, and that the remedy remains protective of receptors in the area.

After several decades of Site investigation and evaluation, the Phase II Addendum shows that the Site is well characterized, the extent of contamination is well defined, groundwater flow characteristics are understood, and potential receptors remain protected. A brief summary of the conclusions in each of these three areas is below.

1. **Additional data shows that the Site boundaries are well defined and the plume is stable.**

UniFirst installed eight new groundwater monitoring wells in locations that focus on further defining the contamination patterns at the Site, particularly in the area of Washington Street, addressing issues raised by MassDEP in the NAFNON. Sampling results from the new wells confirm the accuracy of the existing Site boundaries.

On Figure 1 of the NAFNON, MassDEP plotted three new data points for tetrachloroethene ("PCE") near the intersection of Tufts, Knowlton, and Washington Streets. The NAFNON raised concerns regarding whether the existing site boundaries and groundwater concentration contour lines accurately capture the full extent of the plume and accurately describe the concentration gradient in this area. Only one of the three data points, however, was collected from a groundwater monitoring well (the 14,000 µg/L result from 2014). The other two data points are inherently not representative of ambient groundwater conditions and were collected from components of the Massachusetts Bay Transit Authority ("MBTA") construction of the Green Line Extension ("GLX"). One sample was collected in 2019 from a trench in Washington Street during construction dewatering, and the other sample was collected from an underdrain drainage system vault north of Washington Street—not in Washington Street—installed as part of the GLX project.

As the Phase II Addendum explains in Sections 5.6 and 12.4.1, neither of these data points are suitable for developing contaminant concentration isopleths. The data point from the trench reflects groundwater that was artificially pulled into the Washington Street area under pumping conditions altering hydraulic gradients and flow rates and increasing

contaminant concentrations in the recovered water. Similarly, the origin of groundwater represented by the data point from the vault is unknown, as the water was collected through the underdrain system and transported to the vault. Thus, using the location of the vault as the location of the sample is likely not representative of current conditions in Washington Street. As a result, neither data point reflects subsurface conditions in the location from which the sample was collected. For these reasons, GEI did not readjust the location of the groundwater contours based on these data points.

UniFirst's additional investigation, including the collection of sitewide data and data collected from the new wells MW-405 and MW-406 along with wells installed by the MBTA on the far side of Washington Street, affirmatively shows that the shallow overburden groundwater concentration contours in recent status reports remain accurate. The dissolved phase plume reaches a condensed, steep concentration gradient near the intersection of Tufts, Knowlton and Washington Streets, but it does not cross Washington Street at a significant concentration, consistent with prior reports. A comprehensive discussion of the extent of the shallow overburden groundwater plume and delineation, incorporating data from the new wells installed in response to the NAFNON is included in Section 12.4 of the Phase II Addendum.

2. **Supplemental vapor assessment found conditions of No Significant Risk in indoor air**.

UniFirst gained access to eleven of fifteen properties identified in the NAFNON for further vapor assessment. UniFirst documented multiple attempts to gain access to the four properties to which it was not granted access since the NAFNON, as previously reported to MassDEP by e-mail from Chris Coner of GEI to Tiffany Duhl of MassDEP, dated February 12, 2026. The vapor data collected from every property to which UniFirst was granted access demonstrates that a condition of No Significant Risk exists at the property, and that where installed, Exposure Pathway Mitigation Measures (EPMM) remain effective. This additional investigation and its results are addressed in Section 6 of the Phase II Addendum. UniFirst intends to continue to seek access to the remaining four properties that have not been revisited, and it will include additional information about those attempts in subsequent submissions.

3. **MNA has effectively reduced the plume and demonstrates a controlled source.**

The selected remedy at the Site includes: (1) soil vapor extraction in the source zone area; (2) exposure pathway mitigation measures at certain structures within the Site to maintain conditions of No Significant Risk; and (3) MNA of the remaining dissolved phase plume beyond the source zone. The NAFNON contends that the MNA component of the overall remedy is ineffective because "[a]fter thirteen years, the remedial design has

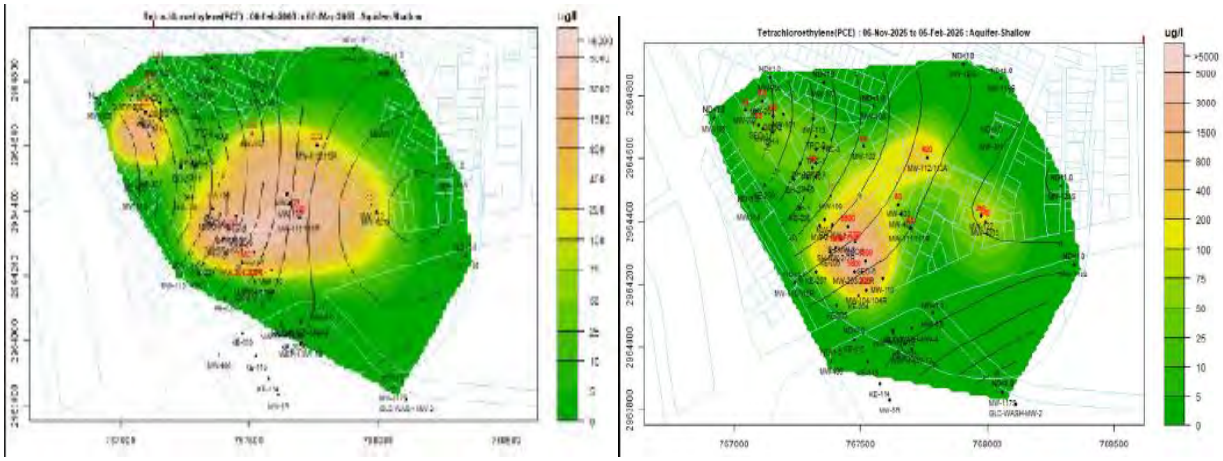
not resulted in a reduction in contaminants in groundwater…, [and] the extent of the groundwater contamination has not substantively changed in the 16 years since it was characterized in the Phase II Report." (NAFNON at 5.) It further identifies the same three data points discussed above—one associated with a 2014 groundwater monitoring well concentration of 14,000 ug/L identified from within the known plume boundaries, and two data points associated in different ways with the GLX construction project, collected in 2019 and 2021, respectively—as evidence of the remedy's ineffectiveness. The NAFNON contends that these three data points are evidence of inadequate plume delineation and support for a conclusion that "the groundwater plume is not stable or contracting or otherwise controlled or mitigated." (NAFNON at 6.) The anomalistic nature of the more recent two data points is discussed in detail in Section 12.4.1.3. of the Phase II Addendum. In short, these data from a construction dewatering trench and from the vault associated with the GLX underdrain collection system are not reflective of ambient and static groundwater conditions at the locations of sample collection.

The MNA analysis in Section 11 of the Phase II Addendum concludes that MNA remains appropriate for the Site and that it has been quite effective. The Massachusetts Contingency Plan ("MCP") defines MNA as:

> a systematically designed and monitored Comprehensive Remedial Action that employs physical, chemical, and/or biological processes under favorable conditions to act without human intervention and primarily through degradation mechanisms to ***reduce the mass, toxicity, mobility, volume or concentration of contaminants in soil or groundwater***, as described in publications by EPA, the Department and other sources that are generally accepted by professionals conducting response actions.

310 CMR 40.0006. An MNA effectiveness analysis must therefore consider whether the program is leading to or is likely to lead to reduction of the "mass, toxicity, mobility, volume or concentration" of Site contaminants within a reasonable time frame. This analysis, included in Section 11 of the Phase II Addendum, shows that MNA is effective at the Site.

Broadly, the MNA analysis relies on multiple lines of evidence each demonstrating the reduction of mass, toxicity, mobility, volume and/or concentration of contaminants. GEI employed the GWSDAT groundwater model to visualize the nature and extent of the plume over time (Phase II Addendum, Section 11.5). Snapshots of the PCE plume interpolations from the model are below and show a clear reduction in the plume geography and scope from 2008 to the present.



2008 PCE Plume Snapshot **2025/2026 PCE Plume Snapshot**

Reductions for other constituents are equally stark. The model further shows how, coincident with construction dewatering, the plume appears to be pulled south toward the intersection of Tufts, Knowlton and Washington Streets, explaining in part why high concentrations of contaminants may have accumulated in a dewatering trench or underdrain system near the GLX construction work. (Phase II Addendum, Figure 8-12.)

In addition to the visualization software, GEI also evaluated degradation trend graphs for key monitoring wells (Section 11.4), performed a molar concentration flow path assessment (Section 11.6), performed Mann-Kendall analyses for key monitoring wells (Section 11.7), performed linear regression analyses for key monitoring wells (Section 11.8), and assessed the geochemical (Section 11.9) and microbial (Section 11.10) evidence at the Site related to whether conditions are ripe for degradation and whether it is in fact occurring. Collectively, the evidence demonstrates that attenuation is, in fact, occurring.

Long term groundwater data demonstrate stable or decreasing concentration trends for the majority of monitoring wells, unchanged plume boundaries from their historical extent, and patterns of degradation products in spatial and temporal patterns consistent with active biodegradation. This condition demonstrates that the plume is not expanding laterally, vertically, or downgradient, and that contaminant mass, toxicity, mobility, and concentration are being reduced over time.

Importantly, plume stability under these conditions indicates that Dense Nonaqueous Phase Liquid (DNAPL) is not acting as an uncontrolled or growing source (Phase II Addendum, Section 12.2). As GEI explains, when degradation and attenuation rates meet or exceed dissolution rates, as demonstrated at this Site by long term plume

stability, decreasing concentrations, and multiple independent lines of evidence, the source is controlled.

The downgradient edge of the plume is defined by chlorinated Volatile Organic Compounds (VOCs) in the deep overburden/bedrock groundwater. At the perimeter of the Site, the concentration of tetrachlorethylene (PCE) has decreased to single digit concentrations or below laboratory reporting limits although the boundary of the disposal remains unchanged due to the natural attenuation of PCE and the presence of degradation products (Trichloroethylene [TCE], 1,2-Dichlorochlorethylene [DCE] and vinyl chloride). (Phase II Addendum, Section 12.4.)

The Phase II Addendum addresses the key issues MADEP raised in the NAFNON and includes the supporting data. As the three key points above show, the results of the new investigation further support that the Site is a mature, well-understood site with an effective existing remedy, a declining contaminant plume, and a protected human population within and around the Site boundaries. In short, MNA is an effective component of the remedy for the Site and has resulted in a reduction in mass and concentration of target contaminants.

UniFirst and GEI intend to move forward as directed by the NAFNON to incorporate this new data and information into addendums to the Phase III Remedial Action Plan and Phase IV Remedy Implementation Plan. If the Department has initial questions or comments regarding the Phae II report, UniFirst and GEI will be happy to arrange a call or a meeting to discuss. Please do not hesitate to reach out to me to schedule such a discussion, or with any other questions.

Respectfully submitted,

Jeff Talbert

Enclosure

cc: Catherine Malagrida, UniFirst Corporation
Ileen Gladstone, P.E., LSP, GEI Consultants, Inc.

GEI Consultants

MassDEP RTN 3-23246

Phase II Comprehensive Site Assessment Addendum

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Executive Summary

GEI Consultants, Inc. prepared this Phase II Comprehensive Site Assessment (CSA) Addendum (2026 Phase II Addendum) on behalf of UniFirst Corporation for the site located at 50 Tufts Street, Somerville, Massachusetts. (the Site; Fig. ES-1). The Site includes the 50 Tufts Street property (the Property), together with portions of residential and commercial properties to the east and immediately north, south, and west of the Property, and the Michael E. Capuano Early Childhood Center (Capuano Center) located at 150 Glen Street in Somerville, Massachusetts (Fig. ES-2).

In 2002, a historical release of chlorinated volatile organic compounds (VOCs), primarily tetrachloroethylene (PCE), trichloroethylene (TCE), and 1,1,1-trichloroethane (TCA), to soil and groundwater at the Property was reported to the Massachusetts Department of Environmental Protection (MassDEP) and assigned Release Tracking Number (RTN) 3-23246. The Site had been in Remedy Operation Status (ROS) since August 2011.

This Addendum was developed in direct response to the MassDEP Notice of Audit Finding, Notice of Noncompliance (NAFNON), and termination of Remedy Operation Status (ROS) issued on December 12, 2024. The primary objectives of this submittal are to update the Conceptual Site Model (CSM), address the technical and informational data gaps identified by MassDEP in the NAFNON, and present a comprehensive evaluation of the effectiveness of the previously selected remedial approach, that included operating the sub-slab depressurization/soil vapor extraction (SSDS/SVE) system at 50 Tufts Street, installing Exposure Pathway Mitigation Measures (EPMMs) where necessary at other properties within the disposal Site boundary,, and conducting Site wide Monitored Natural Attenuation (MNA).

E.S.1. Response to Identified Data Gaps

GEI completed a comprehensive program of additional subsurface investigation, groundwater monitoring, and indoor air evaluation between 2025 and 2026. These efforts included the installation of new monitoring wells, targeted groundwater sampling in previously under-characterized areas (including south of Washington Street), and collection of indoor air and soil vapor data at residences identified in the NAFNON. These investigations were specifically designed to address MassDEP's concerns regarding source control, plume stability, potential migration toward and across Washington Street, vertical extent of contamination, and the continued protectiveness of EPMMs.

The updated CSM incorporates this new data and provides a refined evaluation of contaminant distribution, hydrogeologic conditions, and fate and transport processes. The revised assessment demonstrates that the lateral and vertical extent of the chlorinated VOC plume is well characterized and that significant migration beyond previously defined boundaries, including across Washington Street, is not occurring under current conditions.

E.S.2. Evaluation of Remedy Performance and Source Control

In response to MassDEP's conclusion in the NADNON that remedial performance standards were not being achieved, this Addendum provides a detailed, multi-line-of-evidence evaluation of remedy

effectiveness. The analysis integrates long-term groundwater monitoring data, statistical trend analyses (Mann-Kendall and linear regression), spatiotemporal visualization (GWSDAT), molar flow path analysis, and geochemical and microbial assessments to evaluate Monitored Natural Attenuation (MNA) performance consistent with Environmental Protection Agency (EPA) and Interstate Technology & Regulatory Council (ITRC) guidance. Collectively, these analyses confirm that natural attenuation processes are actively degrading chlorinated VOCs throughout the plume and that contaminant mass, toxicity, mobility, and concentration are decreasing over time.

The operation of the sub-slab depressurization/soil vapor extraction (SSDS/SVE) system at 50 Tufts Street has contributed to significant mass removal from the source area, further supporting source control and reducing long-term loading to groundwater.

Regarding dense non-aqueous phase liquid (DNAPL), the updated analysis demonstrates that residual DNAPL, where present, is stable, immobile, and not acting as an uncontrolled source. The rate of natural attenuation processes equals or exceeds the rate of DNAPL dissolution, resulting in a dynamic equilibrium and maintaining plume stability. This condition is consistent with EPA guidance and supports the conclusion that the source is effectively controlled.

E.S.3. Groundwater Plume Stability and Extent

Groundwater plume stability—a central issue challenged the NAFNON—is demonstrated by both statistical and visual evidence. The plume is not expanding laterally, vertically, or downgradient; rather, portions of the shallow overburden plume have shown measurable contraction. The downgradient extent of the plume remains well defined, and recent monitoring confirms that the shallow overburden plume does not extend south of Washington Street at significant concentrations under current conditions. The overall plume configuration, extent, and behavior are well understood and consistent with long-term monitoring data.

Although construction dewatering and infrastructure modifications associated with the Massachusetts Bay Transportation Authority (MBTA) Green Line Extension (GLX) temporarily influenced groundwater flow and plume configuration, these effects were transient, and the construction of the GLX project is now complete.. Post-construction monitoring confirms that the plume has stabilized under current hydrogeologic conditions and has not resulted in sustained migration or expansion.

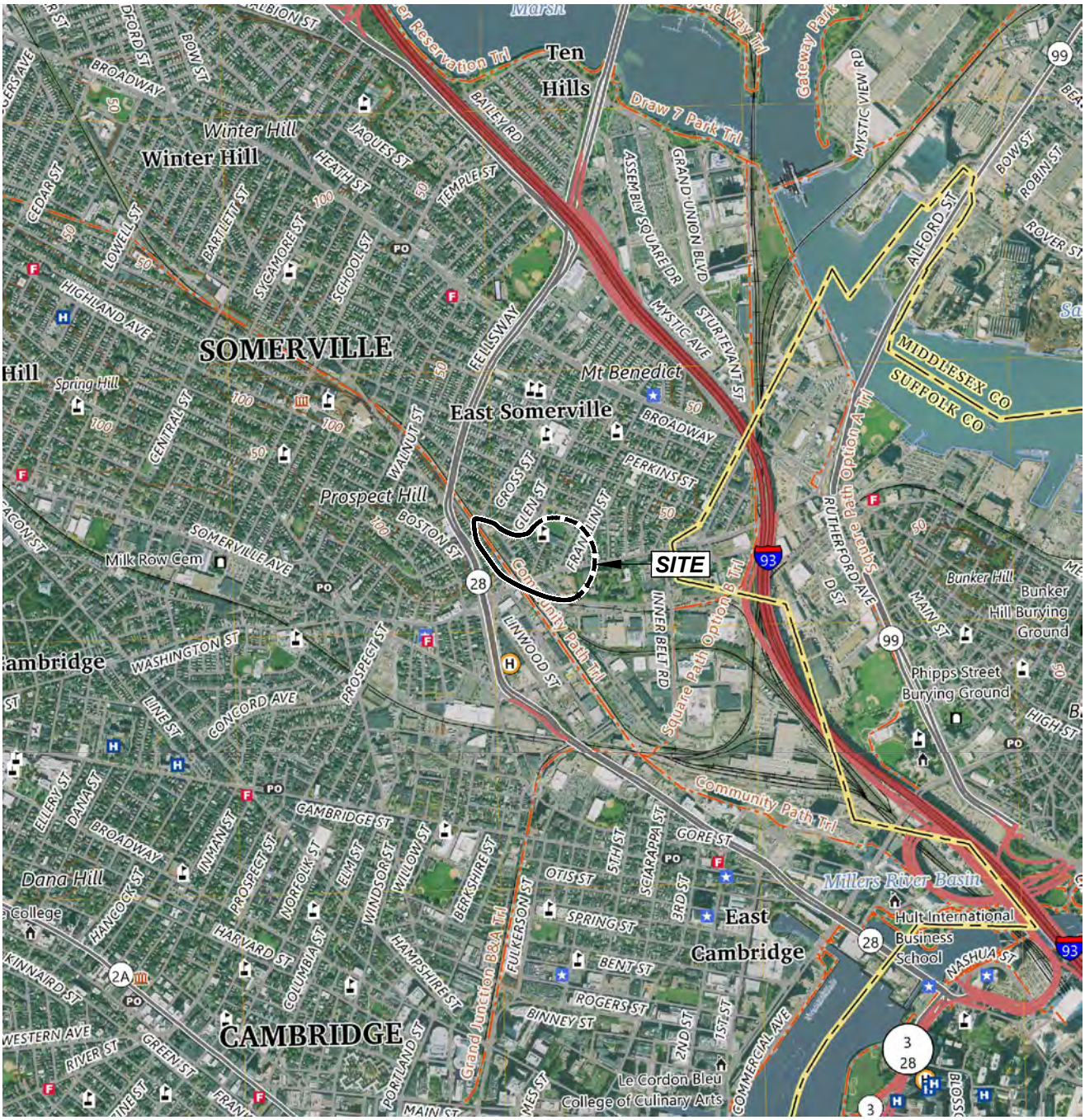
E.S.4. Vapor Intrusion and Exposure Mitigation

In response to concerns raised by MassDEP regarding vapor instruction in the NAFNON, GEI conducted multiple rounds of indoor air sampling at certain residences with existing mitigation systems and at properties where mitigation had not previously been implemented. The results demonstrate that Exposure Pathway Mitigation Measures (EPMMs) remain effective and continue to maintain conditions of No Significant Risk (NSR). Where mitigation systems were not installed, updated data confirm that such systems are not required under current site conditions. Consistent with an e-mail updated provided to MassDEP in February 2026, GEI continues to seek access to four of the fifteen properties identified in the NAFNON for which property owners have not yet granted access.

E.S.5. Conclusions

The comprehensive investigations, analyses, and updated CSM presented in this Addendum demonstrate that the data gaps identified in the Notice of Audit Findings have been fully addressed. The weight of evidence confirms that:

- The remedial program (SSDS/SVE, MNA, and EPMMs) is functioning as intended and remains protective;
- Contaminant mass, toxicity, mobility, and concentration are being reduced over time;
- The groundwater plume is stable and, in certain areas, contracting;
- Residual DNAPL is controlled and does not compromise remedy effectiveness; and
- Current and potential future exposures are adequately mitigated, maintaining conditions of No Significant Risk.



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SCALE, FEET

QUADRANGLE LOCATION

This Image is from U.S.G.S. Topographic 7.5 Minute Series
Boston North, MA Quadrangle, 2024.
Datum is North American Vertical Datum of 1988 (NAVD88).
Contour Interval is 10 Feet.

Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	SITE LOCATION MAP
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. ES-1

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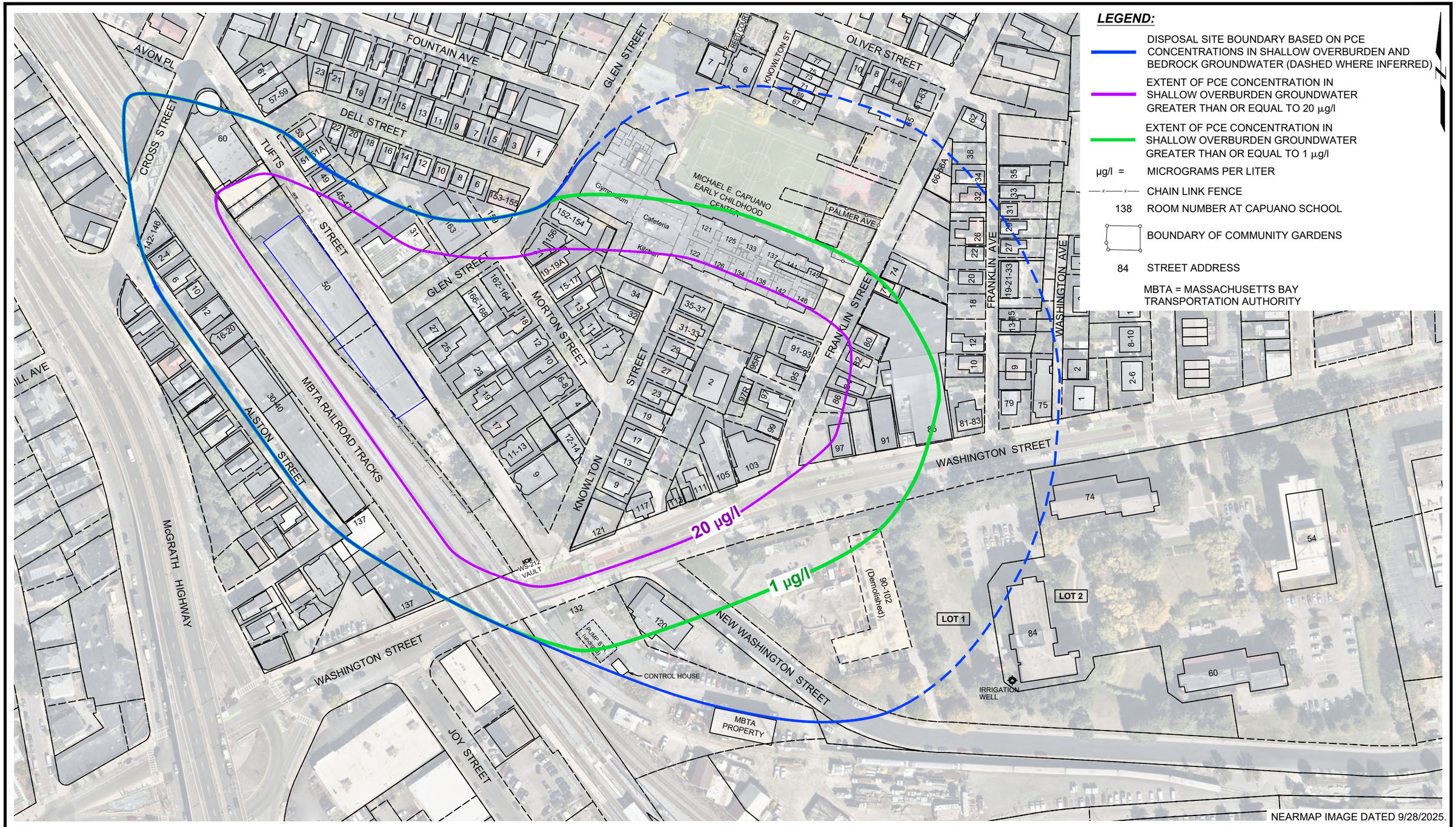

NOTES:

1. NEARMAP IMAGE DATED 9/28/2025.
2. STREET AND PARCEL BOUNDARIES FROM MASSGIS DATABASE.

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Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

SITE PLAN

Project 045163 | June 2026 | Fig. ES-2

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1. Introduction

GEI Consultants, Inc. prepared this Phase II Comprehensive Site Assessment Addendum (2026 Phase II CSA Addendum) on behalf of UniFirst Corporation of Wilmington, Massachusetts for the Site located at 50 Tufts Street in Somerville, Massachusetts (Site; Fig. 1-1). The Site is identified by Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-23246.

On December 12, 2024, MassDEP issued a Notice of Audit Finding, Notice of Noncompliance (NAFNON) and Termination of Remedy Operation Status (ROS) that revoked the Remedy Operation Status. A copy of the NAFNON is in Appendix A. The Site had been in ROS since August 2011; however, MassDEP stated in the NAFNON that the requirements of 310 CMR 40.0893(2) were not being met and thus terminated ROS. UniFirst is continuing Phase V activities, consistent with discussions with MassDEP following its issuance of the NAFNON.

The NAFNON also required revisions to the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) milestone reports in accordance with the following schedule that was modified by MassDEP's letter of March 4, 2026 in response to UniFirst's request for 60-day extensions:

- By February 12, 2025, submit a Tier Classification Extension in accordance with 310 CMR 40.0560(7).
- By June 13, 2026, submit an addendum to the Phase II Comprehensive Site Assessment Report in accordance with the requirements 310 CMR 40.0835 including an updated Conceptual Site Model and site boundary based on the nature and extent of contamination.
- By August 11, 2026, submit an addendum to the Phase III Remedial Action Plan in accordance with the 310 CMR 40.0850 considering technological advances made in the treatment of chlorinated volatile organic compounds (CVOCs).
- By October 12, 2026, submit an addendum to the Phase IV Remedy Implementation Plan in accordance with 310 CMR 40.0874.
- By February 12, 2027, in accordance with the provisions of 310 CMR 40.40.0893(6)(e), achieve a Permanent or Temporary Solution for the Site.

During a meeting among MassDEP, UniFirst, their respective counsel, and GEI on April 25, 2025, MassDEP clarified that the submissions called for in the section of the NAFNON titled "Actions to be Taken and Deadline for Taking Such Actions," including the "revised" Phase II, Phase III, and Phase IV reports may take the form of supplements or addendums to the existing reports, rather than comprehensive revisions.

This 2026 Phase II CSA Addendum relies on investigations conducted at the Site and information gathered from 2008 and through March 2026. Based on these assessments, the Site includes the 50 Tufts Street property (the Property), together with portions of properties in the neighborhoods east and immediately north, south and west of the Property, and the Michael E. Capuano Early Childhood Center (Capuano Center) located at 150 Glen Street in Somerville, Massachusetts (Fig. 1-2).

1.1. Background

From approximately 1955 to approximately 2002, the Property was used for storage and distribution of industrial chemicals, laundry supplies, and dry-cleaning supplies. Chemicals stored at and delivered to and from the Property included chlorinated solvents, which are volatile organic compounds (VOCs). In 2002, a release of chlorinated VOCs (particularly tetrachloroethylene [also known as perchloroethylene (PCE)], trichloroethylene [TCE], and 1,1,1-trichloroethane [TCA]) to soil and groundwater at the Property was reported to the MassDEP and assigned RTN 3-23246. Three other RTNs were subsequently issued for the Site: 3-24358, 3-24376, and 3-26114. For tracking and reporting purposes, these RTNs have been consolidated under RTN 3-23246.

The detection of chlorinated VOCs in indoor air at some buildings within the Site required the implementation of an Immediate Response Action (IRA). The Site was originally classified as Tier IC (Permit No. W085813). The "Phase II Comprehensive Site Assessment (2008 Phase II CSA), Method 3 Risk Characterization, and Phase III Remedial Action Plan (RAP)" (Phase II/III) for the Site was submitted to MassDEP on July 14, 2008. The "Phase IV Remedy Implementation Plan" (Phase IV RIP) was submitted to MassDEP on August 10, 2009. The "Immediate Response Action Completion Report and Remedial Monitoring Report No. 11" (IRAC Report) was submitted to MassDEP on November 13, 2009, and the "Immediate Response Action Completion Report Amendment" (IRAC Report Amendment) was submitted to MassDEP on April 1, 2011. The "Phase IV Final Inspection Report, Remedial Monitoring Report No. 15, and Phase V Remedy Operation Status Report" (Phase IV FIR/Phase V ROS) was submitted to MassDEP on August 4, 2011. The Site was reclassified as Tier II on August 1, 2014, because it did not meet any of the Tier I inclusionary criteria outlined in 310 CMR 40.0520(2). A Tier Classification Extension was submitted on May 9, 2025.

The remedial action alternatives (RAA) selected by the Phase III evaluation included:

1. Installing Exposure Pathway Mitigation Measures (EPMMs) to the extent feasible (e.g., vapor barriers and venting systems, or sub slab depressurization systems [SSDSs]), and recording Activity and Use Limitations (AULs) as appropriate, for residences where the soil vapor migration pathway to indoor air has been confirmed, and installing EPMMs in occupied commercial buildings to reduce chlorinated VOC concentrations in indoor air to that which constitutes a condition of No Significant Risk (NSR).
2. Continuing to operate the soil vapor extraction (SVE) system at the Property to remove Contaminants of Concern (COCs) from the vadose zone and to accelerate attenuation of the downgradient plume by removing contaminant mass.
3. Conducting a Site wide Monitored Natural Attenuation (MNA) program to evaluate overburden and bedrock groundwater plume concentrations over time to assess the rate of natural attenuation processes, and to confirm that groundwater concentrations of chlorinated VOCs are generally stable or decreasing.

Construction and implementation of the RAAs identified in the Phase IV RIP have been completed and remain effective; additional activities, such as operation and monitoring of active remedial systems, or installation of new EPMMs, were to be conducted under Phase V ROS. However, the NAFNON revoked the Phase V ROS. When appropriate, portions of the Site may be closed under Partial Permanent

Solution Statements (PSSs), with or without Conditions. Operating the SSDS and SVE systems, together with MNA, which continue to remain effective, will ultimately achieve a Permanent Solution for the Site, and these operations have continued as Phase V activities.

1.2. Contact Information

Entity Undertaking Response Actions
UniFirst Corporation
68 Jonspin Road
Wilmington, MA 01887

Entity who will own, operate, and/or maintain the selected Remedial Action Alternative (RAA):
UniFirst Corporation
68 Jonspin Road
Wilmington, MA 01887
978-658-8888

Licensed Site Professional (LSP):
Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President
GEI Consultants, Inc.
100 Quannapowitt Parkway
Wakefield, MA 01880
781.721.4012
LSP License No. 9719

Contact Person
Catherine Malagrida, P.G.
Senior Manager - Environmental Compliance and Sustainability
UniFirst Corporation
68 Jonspin Road
Wilmington, MA 01887
978.658.8888 ext. 0587

1.3. Purpose

The purpose of the Phase II CSA Addendum is to update the Conceptual Site Model (CSM) by including additional information and filling technical and information data gaps identified by MassDEP. This report also includes a comprehensive evaluation of the effectiveness of the MNA program. These tasks were designed to respond to the purported deficiencies identified in the NAFNON related to:

- The cleanup approach (SVE, EPMMs, and MNA).
- Contaminant source control and potential for dissolution of chlorinated VOCs into groundwater due to Dense Non-Aqueous Phase Liquid (DNAPL).
- Groundwater plume stability and potential migration of VOCs towards Washington Street.
- Extent of VOC contamination, particularly in Washington Street and the inclusion of data from storm drains, trenches, and groundwater collection systems from within Washington Street in contour maps.
- Continued effectiveness of existing EPMMs and re-evaluation of previously identified Critical Exposure Pathways (CEPs) at several residential buildings where EPMMs were not installed.

1.4. Scope

The Scope of this Phase II CSA Addendum includes:

- Reviewing previous reports and information regarding historical Property and Site uses.

- Conducting subsurface investigations consisting of soil borings, monitoring well installation, soil and groundwater sampling, and laboratory testing.
- Evaluating potential indoor air pathways at selected residential buildings within the Site, including indoor air sampling, soil vapor sampling, and laboratory testing.
- Conducting an evaluation of the selected RAA, including a detailed evaluation of MNA.
- Updating the CSM.
- Updating the Nature and Extent of Contamination to demonstrate that migration of chlorinated VOC south of Washington Street is not occurring.

1.5. Submittals

This report was submitted through eDEP (Transaction No. 2004844) on June 15, 2026. A draft copy of the eDEP Transmittal Form (BWSC 108) is in Appendix B.

1.6. Public Participation

Historically, UniFirst and GEI conducted a series of community meetings to inform property owners, residents, and City of Somerville (the City) officials about the Site. GEI provides copies of this 2026 Phase II CSA Addendum to the local public document repository that was established for the Site at the Somerville Central Public Library. The Somerville Public Library has made documents available on the Internet Archive: (https://archive.org/details/somervillepubliclibrary?tab=collection&query=GEI+Consultants&sort=-date).

This report was submitted through eDEP (Transaction No. 2004844) on June X, 2026. A draft copy of the eDEP Transmittal Form (BWSC 108) is provided in Appendix B.

Copies of property owner notification letters, including notice of sampling letters, chemical testing results letters, and other miscellaneous correspondence have been provided in previous submittals. A table summarizing in person communication with owners of residences is in Appendix C.

2. Conceptual Site Model

GEI developed this CSM to describe release mechanisms, contaminant distribution, and potential exposure pathways associated with the Site. Site features associated with the CSM are shown on Fig. 1-2.

The objectives of this CSM are to:

- Refine and confirm the current understanding of groundwater contamination distribution following almost 20 years of vadose zone source treatment and MNA;
- Delineate the current lateral extent of groundwater contamination following construction dewatering in Washington Street and drainage system improvements by the Massachusetts Bay Transit Authority (MBTA) Green Line Extension (GLX) project; and
- Assess the effectiveness of the RAA and demonstrate whether its objectives are being met. The RAA includes:
    - EPMMs to mitigate known vapor intrusion pathways and eliminate exposure to reduce chlorinated VOC concentrations in indoor air to that which constitutes a condition of NSR.
    - Operating the SVE/SSDS system at the Property to remove COC contaminant mass from the vadose zone which accelerates attenuation of the downgradient plume.
    - Conducting a Site wide MNA program to evaluate overburden and bedrock groundwater plume concentrations over time to assess the rate of natural attenuation processes, confirm that the plume is not expanding, and assess if groundwater concentrations of chlorinated VOCs are generally stable or decreasing and the source is controlled.

2.1. Site History Overview and Current Conditions

The Site is in a commercial/residential zoning district and includes the Property, together with portions of residential and commercial properties in the neighborhoods east and immediately north, south and west of the Property, and the Capuano Center (Fig. 1-2).

The Property was residential from 1874 through 1900, with structures removed by 1950. An office building and warehouse were built in 1955 and expanded in 1977, used for storing and distributing industrial chemicals, laundry supplies, and dry-cleaning supplies and related supplies until 2002. The Property is approximately 51,111 square feet (sf) and developed with an approximately 20,594-sf, one-story, masonry block building.

Since the late 1880s, the prevailing land use at the Site (excluding the Property) has been residential but also has included some commercial uses. The residences existing today are a mix of single and multi-family houses and apartment buildings. Since at least 1888, a railroad is located between the Property and Alston Street to the west. Immediately north of the Property, 60 Tufts Street served as a church, theater, and warehouse before being developed as condominiums around 1999. The Capuano Center, an 85,448 sf, 2-story public school located on an approximately 172,509 sf lot, was developed from former playground and residential land in 2001.

Additional Disposal Site information is in Sections 3 and 4.

2.2. GLX Project

The MBTA, through its contractor GLX Constructors (GLXC), has completed the extension of MBTA Green Line service to Union Square in Somerville and beyond to College Avenue in Medford. The GLX project included significant infrastructure improvements near and through the Site, including a new pump station, reconstruction of the bridge passing over Washington Street, new train tracks within the MBTA right-of-way (ROW), a new train station, and utility improvements.

Approximately 25,000 cubic yards of soil were managed within the Site boundary and disposed of off-site. Construction dewatering, groundwater treatment and discharge activities were conducted, generally in Washington Street, between April 2019 and September 2020. More than 8 million gallons of groundwater were pumped, and the PCE concentration in the dewatering influent ranged from 410 to 1,660 µg/L. The dewatering effluent was treated then discharged to the Millers River through a storm drain.

As part of the GLX project, the MBTA upgraded and altered the existing drainage system that was designed to address chronic flooding at the low point under the rail bridge and to accommodate the rebuilt rail/bridge infrastructure. A new pump station was constructed south of Washington Street. In Washington Street, new drainage structures were integrated with the bridge and roadway, including new drain inlets, subsurface storm drains, and new bridge abutments and retaining walls. The underdrain system included a two-chambered vault at the corner of Tufts and Washington Streets (referred to in design documentation as WS-212; Fig. 2-1), from which contaminated groundwater could be pumped, treated and discharged back into the drainage system. Due to a design and construction error, which included the use of perforated versus non-perforated piping in the system, the vault was taken offline. Improvements were made to infrastructure, including lining existing storm drains with vinylester resin liner and waterproofing concrete pipes, the north bridge abutments, and the Washington Street pump station with crystalline concrete.[1]

Additional information on the GLX project is in Section 5.0.

2.3. Contaminants of Concern

Chlorinated VOCs, particularly PCE, have been measured in soil, groundwater, soil vapor, and indoor air within portions of the Site. TCE and TCA have also been measured in soil, groundwater, soil vapor, and indoor air at the Property. These three chlorinated VOCs are the principal COCs at the Site. Historically, all three of these chlorinated VOCs were delivered to, stored at, handled, and distributed from the Property.

The COCs, identified in the Risk Characterization prepared for the 2008 Phase II CSA, are the chlorinated VOCs formerly stored at and delivered to and from the Property (PCE, TCE and TCA), together with their associated breakdown products (1,1-dichloroethane [1,1-DCA], 1,1-dichloroethylene [1,1-DCE], cis-1,2-dichloroethylene [cis-1,2-DCE], trans-1,2-dichloroethylene [trans-1,2-DCE], and vinyl chloride).

[1] UniFirst notified the MBTA of some of these defects, including the use of the perforated pipe prior to installation.

Other compounds detected at the Site, including benzene, C_5-C_8 aliphatics, C_{19}-C_{36} aliphatics, C_{11}-C_{22} aromatics, 1,2-dichloroethane (1,2-DCA), 1,1,2-Trichloroethane (1,1,2-TCA), 1,1,2,2-Tetrachoroethane, methyl tert-butyl ether (MTBE), naphthalene, and toluene, were not defined as COCs. In addition, chloroform, chloroethane, and carbon tetrachloride were eliminated as COCs for indoor air, in the Risk Characterization.

2.4. Response Actions Conducted to Date

Remedial Investigations have been ongoing at the Site since 2002. Investigations have assessed the type and extent of contaminants and included risk assessments, which evaluated the potential impacts upon human health and the environment posed by site conditions. The investigations provided baseline data required to evaluate the nature and extent of contamination, potential cleanup and pathway elimination actions. Principal field activities included the collection and analysis of samples of groundwater, soil, soil vapor, and indoor air. These analyses identified chlorinated VOCs, primarily PCE, as the contaminants of concern. From January 2006 through March 2026, GEI collected sub-slab soil vapor samples at 58 residences and commercial buildings, and indoor air samples at 77 residences and commercial buildings, including 50 Tufts Street, 60 Tufts Street, and the Capuano School.

As part of this 2026 Phase II CSA Addendum, additional subsurface investigations were conducted in the fall and winter of 2025/2026 to better define the full nature and extent of contamination. Additional indoor air testing has been conducted at select residences identified in the NAFNON by MassDEP, when access was obtained. Indoor air and sub-slab soil vapor sampling at the Site continues to demonstrate the effectiveness of EPMMs, or in some cases the lack of ongoing necessity for the EPMMs at all.

Remedial actions at the Site based on the selected RAAs have relied primarily on three approaches:

- Pathway elimination (EPMMs) at affected occupied residential and commercial buildings, including 50 and 60 Tufts Street and the Capuano School to achieve a condition of NSR.
- Operating the SVE/SSDS system at the Property to remove COCs from the vadose zone to accelerate attenuation of the downgradient plume by removing contaminant mass.
- Conducting a Site wide MNA program.

Through March 2026, EPMMs have been installed or are being installed at 24 residential and commercial properties and remain effective in eliminating vapor intrusion pathways. Currently EPMMs are relied upon to meet the remedial objectives at 22 properties in addition to 50 Tufts Street, 60 Tufts Street and the Capuano School.

Partial PSSs (formerly referred to as Response Action Outcome [RAO] Statements) have been prepared for 51 properties within the Site at which there is either a condition of NSR or an EPMM is operated to maintain a condition of NSR. The Partial PSSs have been provided to the individual property owners.

As discussed further in Sections 2.8.2 and 11, multiple lines of evidence, including statistical analyses, visualizations, and geochemical and microbial assessments demonstrate the effectiveness of the MNA program. The geographic extent of the plume is not expanding, even considering localized effects from construction dewatering activities. In addition to MNA, long-term decreases in contaminant concentrations in the source zone which are attributable to operation of a SVE/SSDS system since 2007

demonstrate additional source control. Statistical evidence, visualization analysis, and trend graphs also demonstrate decreasing or stable VOC concentration trends at a majority of the groundwater monitoring wells at the Site.

Additional information on response actions conducted to date is in Section 9.0

2.5. Physical Setting

The 50 Tufts Street Site, defined by the aerial extent of groundwater contamination, is approximately 25 acres and includes the 50 Tufts Street Property (approximately 51,111 sf) and portions of residential and commercial properties in the neighborhoods east and immediately north, south and west of the Property, and the Capuano Center (Fig. 1-2). The Site is in a commercial/residential zoning district.

The Property is developed with an approximately 20,594-sf, one-story, masonry block building. The Property building is currently being used as a warehouse space and a fitness center. Immediately north and south of the building is paved parking. Further south of the building is a gravel hill that slopes toward Washington Street. Railroad tracks are parallel to the Property and building to the west. Access to the Property is restricted by an 8-foot-high chain-link fence. Tufts Street is parallel to the Property.

In addition to the Property, the Site includes several blocks of residential and commercial properties which are listed in Table 2-1 and shown in Fig. 1-2. Residences at the Site include single family homes, condominiums, apartments, and other multifamily dwellings.

Washington Street, south of the Property, is a main thoroughfare connecting several blocks adjacent to the Property. Recent infrastructure improvements, constructed as part of the GLX project, along Washington Street have included upgrades to utility lines, sidewalk repairs, and enhanced stormwater management systems. Washington Street, beneath the railroad bridge, is a topographic and hydrogeologic low point. There is a grade change of approximately 12 feet between the south end of the building on the Property and Washington Street.

2.6. Field Investigation

There have been numerous field investigations conducted at the Site since the early 2000s. Field investigations for the 2026 Phase II Addendum and CSM Update are supplemental to those investigations to provide data and to better understand the current nature, extent, fate and transport of contaminated groundwater at the Site. The NAFNON identified technical and informational data gaps. Fulfilling these data gaps were a significant focus of the Phase II Addendum and CSM Update field investigations, laboratory analysis and data compilation. Additional groundwater monitoring wells were installed to demonstrate that the plume does not extend south of Washington Street at significant concentrations and to further evaluate concentrations of chlorinated VOCs in the core of the plume and bedrock. Table 2-2 summarizes the various investigations, and their key objectives conducted in response to the NAFNON.

GEI conducted subsurface investigations in 2025 and 2026, which included monitoring well installation, bedrock borehole geophysical evaluations, groundwater elevation gauging, and groundwater sampling. Details of the field investigation were in Phase V Status Report No. 29 and RMR No. 44. Locations of GEI's explorations along with previously existing wells are on Fig. 2-1.

GEI conducted indoor air testing in 2025 and 2026 as required by the NAFNON at the residences listed in Table 2-3 for which we could obtain access. GEI conducted indoor air sampling at residences where an EPMM had been installed and for residences which owners historically refused mitigation systems. Indoor air testing was conducted between February 2025 and March 2026 where access was granted. In each residence sampled, concentrations of VOCs in indoor air, if identified, posed a condition of NSR. Sixteen residences were identified by MassDEP for sampling; however, 91-93 Franklin Street was erroneously identified as two buildings, and therefore there are only fifteen residences. To date, we have obtained access to 11 of the 15 properties. Table 2-4 summarizes our attempts to contact the property owners, which included outreach by certified mail, email (when available), phone (when available), and in-person visits.

Additional information on indoor air sampling at residences is in Section 6 and on recent subsurface investigations is in Section 7.

2.7. Hydrogeologic Setting

2.7.1. Geology

The Site is located approximately 15 to 35 feet above sea level and is in the Charles River and Mystic River drainage basins. Regional groundwater flow is expected to be either east/southeast toward the Mystic River or south-southeast toward the Charles River. The Site area is characterized by extensive urban development which has significantly altered the local topography. The subsurface at the Site consists of several distinct geological layers. Near the surface, there is fill material composed of sand, silt, gravel, and various man-made debris, extending to depths of about 1 to 18 feet. Beneath this, a silt unit is present, varying from 0 to 35 feet thick, with its greatest thickness near the historic pond at the Capuano Center. Below the silt is a glacial till layer, 3 to 15 feet thick, though it is thinner or absent where bedrock is close to the surface. Bedrock appears at shallow depths in the southwest corner of the Capuano School, slopes down toward Franklin Street, and rises again toward the northeast boundary. The deepest bedrock is across Washington Street. The bedrock consists mainly of fine-grained, gray argillite (Cambridge Argillite Formation), with occasional quartzite and sandstone, and the upper 15 to 20 feet is typically highly fractured and weathered. The bedrock has both primary (matrix) and secondary (fracture) porosity.

2.7.2. Groundwater

Based on subsurface investigations, the groundwater system at the Site is composed of three units:

- Shallow overburden in the fill and silt;
- Deep overburden; and
- Bedrock.

Groundwater is expected to flow downward into bedrock in the vicinity of the Site and immediately downgradient of the Site and then travel laterally until it ultimately discharges into the Mystic or Charles Rivers.

Depth to water in the shallow overburden ranges from approximately 4.5 to 15 ft. The direction of groundwater flow in the system (all three units) across the central portion of the Site is generally toward the east/ southeast – from the Property toward Franklin Street. Although construction dewatering during the GLX project (2019-2020) construction dewatering temporarily shifted the plume southwesterly,[2] following the completion of dewatering, the contaminant plume began reverting to its original path, although not completely. The installation of new utilities under Washington Street likely affected shallow groundwater flow, preventing full restoration of the plume's previous configuration and establishing a new stable configuration. The flow direction in other portions of the shallow overburden is also locally influenced by underground utilities.

The overall vertical component of groundwater flow is downward in the system, i.e., groundwater flows primarily horizontally in all geological units but with a slight downward component from the shallow overburden into the deep overburden, and subsequently downward into the bedrock. The downward component of flow stems from recharge to the overburden.

Additional information on the Site geology and hydrogeology is in Section 8.

2.8. Updated Fate and Transport

Understanding natural attenuation processes and engineering processes that will retard migration and remove COCs over time is important to understanding potential exposure scenarios and how the concentrations are likely to change over time. This information is used to describe the fate and transport of selective COCs, particularly PCE, TCE and TCA. Several types of evaluations were performed to update the understanding of the fate and transport processes affecting site COCs. These evaluations and their conclusions are discussed in Section 11.

2.8.1. Monitored Natural Attenuation

MNA is part of the remedial strategy to reach a Permanent Solution for the Site and has been effective in reducing concentrations of site COCs and maintaining plume stability since its implementation as an RAA. The MNA Analysis in this report demonstrates that natural attenuation and degradation are occurring and that the source is controlled. Residual DNAPL, as a source, is controlled because the rate of degradation, dispersion, and other attenuation processes equals or exceeds the rate of DNAPL dissolution, dissolved phase contaminant concentrations remain stable or decrease with distance downgradient. The groundwater plume reaches a dynamic equilibrium, in which contaminant mass entering the plume from DNAPL dissolution is offset by mass destruction and attenuation within the plume. In addition to MNA, long term decreases in contaminant concentrations in the source zone which are attributable to operation of the SVE/SSDS system since 2007 demonstrates additional source control.

Since 2011, GEI has implemented an MNA program to confirm on-going natural attenuation is occurring at the Site. A variety of lines of evidence consistent with EPA guidance (EPA, 1999) are used to identify evidence of natural attenuation processes and evaluate their effectiveness in reducing COC mass and

[2] The NAFNON erroneously states that "levels of cVOCs in groundwater indicate a migration of the plume that is primarily to the northeast and east. There is also a southwestern component of the plume that extends from the Property across Washington Street and to the MBTA storm drain system."

limiting dissolved COC migration. The EPA identifies three types of site-specific evidence that can be used to evaluate the effectiveness of MNA:

1. Historical analytical data demonstrates a clear and meaningful trend of decreasing mass and/or concentration.
2. Hydrogeologic and geochemical data indirectly demonstrates the types of natural attenuation processes active at the site and the rate at which such processes will reduce concentrations to target cleanup goals.
3. Data from field or microcosm studies directly demonstrates the occurrence of natural attenuation process(es) and their ability to degrade the COCs.

A comprehensive evaluation of the effectiveness of MNA undertaken as part of this Phase II CSA Addendum clearly demonstrates that natural attenuation is occurring, as further discussed in Section 11. The reduction of mass, toxicity, mobility, volume, or concentration of contaminants in groundwater at the Site are supported by multiple lines of evidence, including statistical analyses, visualizations, and geochemical assessments, consistent with EPA (EPA, 1999) and ITRC (ITRC, 1999) guidance to evaluate natural attenuation.

The multiple lines of evidence, including VOC concentration trends (both temporally [trend graphs] and spatially along the groundwater flow path [GWSDAT analysis and molar concentration plots]), as well as groundwater geochemical and microbial data, were assessed as part of the evaluation process. In addition to these graphical (Sections 11.4 and 11.6) and visual forms (Section 11.5), the effectiveness of natural attenuation was also evaluated by statistical methods through Mann Kendall test (Section 11.7) and linear regression analyses (Section 11.8) of historical groundwater data sets. Finally, geochemical (Section 11.9) and microbial (Section 11.10) data are also used to support the effectiveness of natural attenuation. Among other things, these evaluations are based on chlorinated VOC concentration data collected from 2004 to present that meet applicability criteria for each evaluation.

2.8.1.1. Degradation Trend Graphs

Degradation trend graphs show chlorinated VOCs naturally attenuating in groundwater, with PCE levels generally decreasing or remaining stable. Several of the degradation trend graphs (Figs. 2-2 through 2-5), with large/long datasets, illustrate declining PCE coupled with rising (and subsequently falling) degradation products over time, as is expected in a properly functioning natural degradation system.

The TCA graph for GEO-1, located in the Source zone, demonstrates degradation and presence of degradation products. The concentration of TCA reduced from a maximum concentration of 42,500 µg/L in 2007 to less than laboratory reporting limits in 2018 (Fig. 2-2). Similarly, the graph for GEO-1 shows a maximum concentration of PCE 48,500 ug/L in 2007 reduced to 12 ug/L in 2026 and degradation products (Fig. 2-3). Concentrations in these wells were likely influenced by the SVE system installed in 2007.

In the core of the plume, the long-term pattern of degradation is illustrated at MW116, which is outside the influence of the Tufts Street SVE system. The concentration of PCE has been steadily decreasing from 1,180 µg/L in 2007 to 130 µg/L in 2025 (Fig 2-4). This long-term pattern of degradation is also apparent at the perimeter, where concentrations of PCE in MW121D were reduced from 258 ug/L in 2007 to 9.9 ug/L in 2026 (Fig. 2-5).

2.8.1.2. Visualization Analysis

Plume visualization (i.e., GWSDAT spatiotemporal maps) illustrate that the overall shallow overburden plume is decreasing in magnitude and lateral extent over time. This visualization demonstrates that groundwater concentrations decreased rapidly in the source zone following the startup of the SVE system and have exhibited plume scale long-term decreasing trends over almost twenty years due to natural attenuation processes. The shallow overburden plume has not expanded across Washington Street beyond the historical footprint and has contracted.

For each of the COCs evaluated (PCE, TCE, and TCA), the overall plume magnitude has exhibited long-term decreasing trends. Spatiotemporal snapshot comparisons for PCE, TCE, and TCA in 2008 and 2026 are shown on Figs. 2-6, 2-7, and 2-8.

2.8.1.3. Molar Concentration Flow Path Assessment

At the Site, the molar flow path analysis shows key site VOCs degrading as expected: higher chlorinated VOC concentrations are greatest in groundwater near the source, while degradation products increase further along the plume and are fully degraded at the perimeter wells. Molar flow path analysis examines the transport of contaminant mass (in moles) along the groundwater flow direction. It is useful to understand mass flux and plume attenuation. This degradation indicates overall reduction in mass, volume, and concentration of contaminants within the shallow overburden footprint of the plume over time. A plot of the molar concentrations vs. distance downgradient along the eastern/southeastern flow path shows is shown on Fig. 2-9.

2.8.1.4. Statistical Evaluation

Statistical evaluations, including Mann Kendall tests and linear regression analyses of historical groundwater data, demonstrate decreasing or stable trends for the overwhelming majority of wells, providing strong evidence for ongoing effective degradation. The Mann Kendall results indicate that natural attenuation of PCE is occurring in groundwater at most locations (19 of 21 total wells), with concentrations of PCE decreasing throughout the VOC-affected groundwater zone. The linear regression analysis indicates stable or decreasing PCE trends in 40 of the 43 evaluated wells, which is a strong line of evidence that degradation is occurring.

2.8.1.5. Geochemical Assessment Summary

The available geochemical data demonstrate conditions favorable for aerobic and anaerobic degradation depending on location (i.e., aerobic in the vicinity of the SVE system and anaerobic elsewhere) and provide another line of evidence that natural attenuation of chlorinated VOCs is occurring.

In the source zone, dissolved oxygen concentrations greater than 5 mg/L (up to 10 mg/L) are frequently observed in most wells near and north of the 50 Tufts Street building where the SVE system is operating. These high levels of oxygen suggest that aerobic degradation controls CVOC concentration reductions.

Outside the influence of the SVE system, the overall geochemical conditions are conducive to reductive dechlorination, and abiotic degradation is expected to play a significant role, as it does in many chlorinated solvent plumes that are also degrading via biotic processes. Based on recent sampling

(i.e., 2020s), negative ORP, which is necessary for anaerobic degradation, is observed in downgradient core wells, including MW112A and MW116, as well as downgradient perimeter wells, including the MW117, MW118, MW120 and MW121 clusters. Nitrate concentrations in GEO-2 and MW112A dropped from elevated baseline levels to near or below 1 mg/L for several years, supporting nitrate reduction through at least 2017, while sulfate in the same area declined from roughly 100 mg/L to near or below 20 mg/L from 2017 to 2025, indicating sulfate reduction as well. Additional support comes from manganese being present in MW104 and MW112A and dissolved iron in MW104 reaching 1 to 5 mg/L, both consistent with reducing conditions favorable for dechlorination. Together, these geochemical trends show that biodegradation has been occurring.

2.8.1.6. Microbial Population Testing

Microbial populations on the Property suggest conditions conducive to aerobic degradation, while populations further downgradient support anaerobic dechlorination.

Anaerobic reductive dechlorination of chlorinated solvents is performed by several bacterial groups, and while bacteria that partially dechlorinate PCE and TCE are widespread, complete dechlorination to ethene by a single species has mainly been demonstrated in the lab for Dehalococcoides ethenogenes; however, mixed bacterial communities can also achieve full dechlorination. Microbial testing conducted in 2026 at five Site wells found degraders present in all sampled locations. The three downgradient core wells—MW112A, MW116, and MW122—show moderate populations of microorganisms capable of complete TCE and vinyl chloride dechlorination, supporting the conclusion that the downgradient plume is actively degrading. Results from MW203R suggest conditions there favor aerobic degradation due to the SVE system, while results from MW104R suggest dewatering may have temporarily disrupted conditions needed for Dehalococcoides to thrive.

2.8.1.7. MNA Summary

The MNA Evaluation demonstrates:

- Plume Not Expanding (Plume Stability): Both statistical and visual evidence confirm that the geographic extent of the plume is not expanding. This is true even with the local impacts from MBTA's construction and dewatering activities. The overall extent of the shallow plume has shown contraction. The downgradient extent of the overburden (shallow) plume was originally delineated by wells where the concentration of PCE is less than the reporting limit, and this condition continues currently. The overall extent of the disposal site was defined based on deeper groundwater concentrations in the till and bedrock. The boundary of the disposal site remains unchanged due to the natural attenuation of PCE and the presence of degradation products (TCE, 1,2-DCE and vinyl chloride).
- Decreasing concentration trends at key monitoring wells, whose importance is emphasized by EPA guidance, are supported by statistical evidence, visualization analysis and trend graphs.
- Source Control: MNA at the Site demonstrates that natural attenuation and degradation are occurring at a rate that exceeds the rate of DNAPL dissolution and therefore the source is controlled. Within the plume a dynamic equilibrium has been achieved, in which contaminant mass entering the plume from DNAPL dissolution is offset by mass destruction and attenuation

within the plume. In addition to MNA, long term decreases in contaminant concentrations in the source zone which are attributable to operation of a SVE/SSDS system since 2007 demonstrates additional source control.

2.9. Updated Nature and Extent of Contamination

The updated nature and extent of contamination model at the Site was developed based on the field and laboratory investigations performed since the 2008 Phase II CSA, including investigation of the effects of the GLX construction dewatering and subsurface investigations conducted in 2025 and 2026. The investigations developed a more detailed understanding of the subsurface lithology, chemical and DNAPL distributions, evidence of natural attenuation processes, changes and transformations of the contaminant plume, and sources.

Additional information on the nature and extent of contamination is in Section 12.

In the NAFNON, MassDEP relied on data collected by the MBTA during construction to characterize the current conditions in and around Washington Street and to support an assertion that the extent of PCE contamination is underestimated in prior reports. This reliance on MBTA construction-era samples is misplaced because the dewatering data collected in Washington Street was under disturbed, non-representative conditions and because the location of the groundwater sample from the underdrain system was from a vault (WS-212) north of Washington Street, not in Washington Street. The locations of collection of this data should not be used to define the current plume extent or the 20 µg/L PCE isopleth because the locations of sample collection are not consistent with the location of static conditions in the environment.

A further discussion of the MBTA's GLX project and its impact on the Site is provided in Section 5

2.9.1. COC Mass Removal

GEI designed and installed an SVE/SSDS system at 50 Tufts Street in 2007. In addition to mitigating the vapor intrusion pathway into the building, the SVE system north and south of the building reduced the mass of contaminants in the vadose zone and controlled the potential migration of soil vapor from the Property to the 60 Tufts Street property.

Through December 15, 2025, the operation of the SVE/SSDS system has removed approximately 9,522 pounds or 707 gallons[3] of VOCs from the subsurface. The operation of the SVE/SSDS system has reduced the concentrations and mass of chlorinated VOCs in the vadose soil, which are likely to continue decreasing with ongoing operation of the system.

Various tools in the MNA analysis show degradation in all portions of the plume, including the source zone, which demonstrates mass reduction. As shown in Figs. 2-6, 2-7 and 2-8, the GWSDAT model clearly shows that the core of the plume has been degrading. The degradation graphs (Figs. 2-2, 2-3, 2-4 and 2-5) also show that most wells are decreasing in PCE and TCE concentrations, while generating lower chlorinated degradation products and eventually dechlorinating to ethene. The degradation trend graphs

[3] VOC mass removed is calculated using the ratio of VOC concentrations detected in sub-slab soil vapor.

in all the plume zones (source, core and perimeter) show degradation products are present, with concentration trends for the parent compounds, PCE and TCA, decreasing throughout the VOC affected groundwater zone. The molar flow path evaluation indicates that each of the key site VOCs are degrading as expected along evaluated flow paths.

2.9.2. Source Characterization

2.9.2.1. Historical Evidence of Source Contamination

The highest concentrations of COCs have been measured in soil, soil vapor, and groundwater samples collected at the Property. Documentation submitted to MassDEP concerning the history of operations at the Property has confirmed that PCE, TCE, and TCA in liquid form were stored and handled at the Property for many years. Over a span of approximately 50 years, ending in 2002, the Property was used as an industrial and laundry chemical supply business. Delivery, storage, loading and unloading of PCE have been documented for much of that period. Likewise, pipe labels and other historical information indicate that TCE and TCA were delivered, stored, loaded, and unloaded on the northern portion of the Property. The source of PCE contamination is north, beneath and south of the building. The source of TCA contamination is limited to north of the building.

2.9.2.2. Extent of Residual DNAPL

Although not an uncontrolled source, the 2008 Phase II CSA concluded that based on converging lines of evidence, PCE, TCE, and TCA DNAPLs were present in overburden down to the top of bedrock (and possibly in bedrock) at the Site (Kueper 2008b).[4] The DNAPL was not present continuously throughout this volume of porous media but was rather situated in many discrete lenses and laminations of geologic material. DNAPL has not been visually observed or detected in the monitoring wells or in the groundwater or soil samples collected at the Site. Consequently, the majority of DNAPL exists as residual DNAPL, which is immobile due to capillary trapping forces. Given the relatively high density and low viscosity of PCE, TCE, and TCA along with the moderate hydraulic conductivity of the overburden deposits, it is concluded that any continuous distributions of DNAPL are no longer migrating and have been stabilized by capillary trapping forces (Kueper 2008b). Storage and handling of chlorinated VOCs at the Site ended in 2002. Consequently, there has been no potential for further release of OHM to the environment since the initial conclusions were made, and those findings continue to be relevant to the CSM.

The operation of the SVE/SSDS system at the Property since 2007 has accelerated the process of removing DNAPL from the unsaturated zone north and immediately south of the building mitigating residual DNAPL from contributing to contaminant migration into the overburden groundwater. The concentrations of PCE, TCE and TCA north of the 50 Tufts Street building (GEO-1) have been reduced from maximum concentrations of 48,500 ug/l, 30,600 ug/L, and 42,500 ug/L, respectively to a PCE concentration of 12 ug/L and the concentrations of TCE and TCA been reduced to less laboratory

[4] Kueper prepared an assessment of DNAPL presence and distribution (Kueper2008a) and an assessment of source stability, plume stability and response time (Kueper2008b) for the 50 Tufts Street Site. Copies of both documents are in the 2008 Phase II CSA Report.

reporting limits in most samples collected since 2018 indicating that PCE, TCE and TCA are no longer likely to be present as DNAPL in the overburden north of the building.

Although PCE as DNAPL may persist south of the building on the Property and off site to the east and west, the DNAPLs are likely located primarily in the bedrock, no longer migrating, and have reached a stable configuration because of capillary trapping forces for most of the past twenty years. The stability of these DNAPL sources is supported by groundwater concentration data collected from monitoring wells within the area of DNAPL occurrence. The concentration of PCE in groundwater samples collected at a depth of more than 70 feet in MW404, the bedrock well immediately south of the building, in the most recent round of sampling (February 2026) was 26,000 ug/L, less than the GW-3 Standard (30,000 ug/L). The concentration of PCE quickly attenuates as indicated by the February 2026 sampling results (1,400 µg/L) in MW403 approximately 200 feet to the south. In monitoring wells at the perimeter of the disposal Site (e.g., MW118D, MW119T, 120D, and 121D), PCE is in single digit concentrations or below laboratory reporting limits.

2.9.2.3. DNAPL is Not an Uncontrolled Source

The potential presence of residual DNAPL is not synonymous with an uncontrolled source. When degradation and attenuation rates meet or exceed dissolution rates, as demonstrated at this Site by long term plume stability, decreasing concentrations, and multiple independent lines of evidence, the source is controlled. The effect of a source on a plume is not determined by the mere presence of DNAPL or by whether some dissolution is occurring, but by whether dissolved phase contaminant mass is increasing, stable, or decreasing at the plume scale (EPA 1999).

Under EPA guidance, the critical consideration is the balance between mass loading from the source and mass loss due to attenuation processes, not the mere existence of DNAPL. Where the rate of degradation, dispersion, and other attenuation processes equals or exceeds the rate of DNAPL dissolution, dissolved phase contaminant concentrations will remain stable or decrease with distance downgradient. In this condition, the groundwater plume reaches a dynamic equilibrium, in which contaminant mass entering the plume from DNAPL dissolution is offset by mass destruction and attenuation within the plume. As a result, the plume is stable or contracting rather than expanding (EPA 1998).

At this Site, long term groundwater data demonstrate stable or decreasing concentration trends for the majority of monitoring wells, plume boundaries remain unchanged from their historical extent, and degradation products occur in spatial and temporal patterns consistent with active biodegradation. This condition demonstrates that the plume is not expanding laterally, vertically, or downgradient, and that contaminant mass, toxicity, mobility, and concentration are being reduced over time. Importantly, plume stability under these conditions indicates that DNAPL is not acting as an uncontrolled or growing source, even if dissolution is ongoing at a low, steady rate.

2.9.3. Contaminant Distribution: Soil

COCs found in Site soil primarily consist of PCE, TCE and TCA in soil at the Property. The highest concentrations of PCE (1,800 mg/kg), TCE (4.4 mg/kg) and TCA (2.7 mg/kg) measured in soil were located beneath the Property building slab.

At the Property, an SVE/SSDS system began operating in 2007.

Through December 2025 the operation of the SVE/SSDS system had removed approximately 9,522 lbs or 707 gallons of VOCs from the subsurface. The operation of the SVE/SSDS system has reduced the concentrations and mass of chlorinated VOCs in the vadose soil, which are likely to continue decreasing with ongoing operation of the system.

2.9.4. Contaminant Distribution: Groundwater

The primary COCs in groundwater are PCE, TCE and TCA. The highest VOC concentrations in groundwater are on the 50 Tufts Street Property. Dissolved phase chlorinated VOCs have been measured in groundwater at the Property and downgradient in the overburden (fill, silt, and till) and bedrock (argillite). The central portion of the groundwater plume is characterized by the presence of elevated concentrations of dissolved chlorinated VOCs, particularly PCE. The TCA plume has attenuated to concentrations less than 50 µg/L throughout the entire plume in 2024, 2025, and 2026.

The downgradient extent of the overburden (shallow) plume is defined by a concentration of PCE that is less than the reporting limit. The lateral extent of the disposal site was defined based on deeper groundwater concentrations in the till and bedrock. The extent of the disposal site, along with the extent of the shallow plume, is shown on Fig. 1-2. The boundary of the disposal site remains unchanged since being defined in 2008 due to the natural attenuation of PCE and simultaneous generation and complete dechlorination of degradation products (TCE, 1,2 DCE and vinyl chloride). The GWSDAT spatiotemporal maps and trend plots clearly show this, visually confirming the reduction and contraction of PCE, TCE, and TCA plumes over time.

The shallow groundwater plume does not extend south of Washington Street at significant concentrations. This was confirmed by the wells installed and sampled by TRC in 2022(WSPH MW 12 [<1 µg/L] and WSPH MW 13 [1.2 µg/L]) and 2023 (WSPH MW 12 [<1 µg/L] and WSPH MW 13 [3.1 µg/L]) (TRC 2025) and by the wells installed and sampled by GEI (MW405 and MW406) where PCE in groundwater was at or below laboratory reporting limits.

In addition to portraying the disposal site boundary and shallow overburden plume (PCE <1 µg/L), GEI has also consistently depicted the extent of the PCE GW-2 plume on disposal site maps; in the 2008 Phase II CSA this was represented by the 50 µg/L concentration contour. Beginning in 2015, GEI included a 20 µg/L concentration contour based on MassDEP's intention to lower the GW-2 standard with the next MCP revision. These isopleths were developed using the concentration of PCE groundwater samples collected from wells on the opposite side of Washington Street and have been validated by the visualization provided by the GWSDAT model.

These isopleths (20 µg/L), along with the previous (50 µg/L) Method 1 GW- 2 Standard are not invalidated by the elevated concentrations of PCE detected in a localized section of Washington Street, because only low concentrations well below GW-2 Standards, if any, are detected across Washington Street. While an isolated portion of Washington Street may show elevated PCE levels, the broader sampling data supports the conclusion that significant migration across the street is not occurring.

The plume is stable and is not expanding. The overburden plume is bound by Alston Street, Cross Street, Glen Street, the Capuano School, Franklin Avenue and Washington Street. The lateral extent of disposal site extends further east towards Oliver Street and to the south of Washington Street due to deep overburden/bedrock contamination. The downgradient edge of the plume is defined by chlorinated VOCs in the deep overburden/bedrock near MW118D, MW119T, MW120D and MW 121D. In all these wells, the concentration of PCE has decreased since 2011 to single digit concentrations or below laboratory reporting limits although the boundary of the disposal remains unchanged due to the natural attenuation of PCE and the presence of degradation products (TCE, 1,2-DCE and vinyl chloride).

2.9.5. Contaminant Distribution: Vapor Intrusion and Indoor Air

In some buildings within the Site, chlorinated VOCs have been detected in indoor air samples. Where such detections coincide with elevated chlorinated VOC concentrations measured in soil vapor, they are indicative of a complete pathway from soil vapor into indoor air. Whether and to what extent a complete pathway may exist has proven to be highly site-specific, depending on, among other things, location, soil type, foundation characteristics, and building design and condition. Elevated concentrations of chlorinated VOCs detected in soil vapor samples generally coincide with elevated concentrations of chlorinated VOCs in the groundwater plume. Soil vapor concentrations of chlorinated VOCs diminish quickly beyond the edges of the overburden groundwater plume. PCE has not been detected in the indoor air at properties over the outer portions of the shallow groundwater plume.

2.9.6. Underground Utilities

The stormwater drainage system within the Site flows into a collection system in Washington Street and discharges to the Millers River. Chlorinated VOCs have historically been detected in the stormwater drainage system at the Site which was reported to MassDEP as a Condition of Substantial Release Migration (SRM) in 2008 and assigned RTN 3-28231 (the Storm Drain Site). In 2020, GEI prepared and submitted a Revised Permanent Solution Statement (PSS) without Conditions and Revised Method 3 Risk Characterization for the Storm Drain Site.

The GLX project improvements to Washington Street drainage system including lining of existing pipes and waterproofing new elements of the infrastructure will reduce infiltration of contaminated groundwater into the underground utilities.

2.10. Receptors and Potential Exposure Pathways

2.10.1. Human and Environmental Receptors

Current and future human receptors at the Site are residents (including children), commercial workers, teachers and students at the Capuano School, and construction, railroad and utility workers.

The Site is in an urban area, is fully developed, and would not likely represent a potentially significant habitat. There is minimal exposure for potential environmental receptors. There are no significant natural resource areas within the Site.

2.10.2. Exposure Pathways

Where applicable, exposure pathways included incidental ingestion and dermal contact with soil, incidental ingestion, and dermal contact with groundwater, inhalation of airborne constituents in ambient air, inhalation of airborne constituents in excavation air, and inhalation of airborne constituents in indoor air.

2.10.2.1. Soil

Impacted surface soil on the Property and nearby is encapsulated by the building, parking lot and roadway (i.e., Tufts Street). Under current conditions there is no complete exposure pathway to contaminated surface soil.

For construction and utility workers, future exposure pathways to contaminated soil may occur primarily during excavation, trenching, or other subsurface activities. Workers could be exposed through incidental ingestion of soil particles, dermal contact with contaminated soil, and inhalation of dust or vapors generated during soil disturbance. These pathways are most relevant during active work that disturbs encapsulated soil, such as repairs, installation of infrastructure, or building foundations.

2.10.2.2. Groundwater

The groundwater at the Site is not used for drinking water and is classified by MassDEP as a "Non-Potential Drinking Water Source Area." Therefore, there is no current or future drinking water exposure from the Site. Bedrock groundwater ultimately discharges to the Mystic River or Charles River, both almost two miles from the Site boundary as defined by bedrock contamination.

2.10.2.3. Indoor Air

Vapor intrusion is a confirmed exposure pathway at the Site. Chlorinated VOCs, including PCE, TCE, and TCA, have been measured in the indoor air in the building on the Property, in residences, commercial buildings, and the Capuano Center downgradient and crossgradient of the source area located at the Property.

2.10.3. Pathway Elimination/Downgradient Receptors

Based on groundwater, soil, soil vapor, and indoor air sampling results, GEI identified a several-block area near the Property for evaluation of soil vapor intrusion as a potential exposure pathway. Since 2006, GEI evaluated 78 residences, mixed-use and commercial buildings at the Site. EPMMs were installed to the extent feasible (e.g., vapor barriers and venting systems, or SSDS) at 24 properties (excluding the Property, the Capuano Center, and 60 Tufts Street). Currently, EPMMs are relied upon to meet the remedial objectives at 22 properties and are not being relied on at 103 Washington Street and 163 Glen Street. GEI continues to reach out to property owners who are redeveloping properties to assist them with installing a vapor mitigation system during construction. Eight properties have been redeveloped and vapor mitigation systems installed in five (Section 9.5.2).

2.10.3.1. Recent Vapor Intrusion Evaluation

Between February 2025 and March 2026, GEI collected indoor samples at residences where a passive EPMM had been installed and for which owners historically refused mitigation systems, as required by MassDEP. Indoor air data is being evaluated to confirm a condition of NSR exists at each location. To simplify the data analysis, if concentrations of all compounds detected in indoor air were less than the applicable MassDEP indoor air Residential Threshold Values (TVr), it was assumed that the detected concentrations pose a condition of NSR. Although a Critical Exposure Pathway (CEP) may also exist where concentrations exceed the applicable indoor air TVr, but are below a concentration that poses Significant Risk, the requirement to mitigate these CEPs to the extent feasible has already been satisfied and is no longer applicable at the Site because the Immediate Response Action (IRA) has been completed and the Site has been fully assessed.

At the eight properties MassDEP identified where passive EPMMs have been installed (91 and 93 Franklin Street; 166-168 Glen Street, 17, 32, and 34 Knowlton Street; 4, 11, and 19-19A Morton Street), GEI conducted two rounds of indoor air testing to demonstrate the continued effectiveness of the EPMMs. The indoor air testing identified chlorinated VOCs were below the applicable TVr in most homes. Concentrations of chlorinated VOCs in samples collected at two residences (166-168 Glen Street and 4 Morton Street) were slightly above the applicable TVr but posed a condition of NSR. The testing at all eight residences demonstrates the EPMMs remain effective.

GEI obtained access at three (162-164 Glen Street, 19, and 25 Tufts Street) of the seven properties MassDEP identified where access to install an EPMM was denied. GEI conducted two rounds of indoor air testing to evaluate current conditions in the residences. At 162-164 Glen Street and 25 Tufts Street the concentrations of chlorinated VOCs were below the applicable TVr. The basement of 19 Tufts Street, where the concentrations of PCE were above the applicable TVr and pose a condition of NSR, is not occupied space and is used for storage and laundry. An EPMM continues to be unnecessary at these residences. We are continuing to attempt to obtain access to the other properties (99 Franklin Street, 9 Tufts Street, 11 13 Tufts Street, and 17 Tufts Street).

2.10.3.2. Partial Permanent Solution Statements

Partial PSS (formerly referred to as Response Action Outcome [RAO] Statements) have been prepared for 51 properties within the Site at which there is a condition of NSR. The Partial PSSs have been provided to the individual property owners.

3. Disposal Site Information [310 CMR 40.0835(4)(a)(b)]

Information presented in this section references state and federal databases and file reviews, Unites States Geological Survey (USGS) publications, municipal file reviews, and previous GEI investigations.

3.1. Site Location and Description

The Site is in a commercial/residential zoning district and includes the Property, together with portions of residential and commercial properties in the neighborhoods east and immediately north, south and west of the Property, and the Capuano Center (Fig. 1-2). The Universal Transverse Mercator (UTM) coordinates of the Property are 4,694,322 N and 328,049 E.

3.1.1. The Property Location and Description

The Property is approximately 51,111 sf and developed with an approximately 20,594-sf, one-story, masonry block building. Most of the Property building is a warehouse space and a fitness center.

The eastern side of the building abuts the sidewalk and then Tufts Street, and on the western side of the building is a narrow strip of vegetation and then railroad tracks. Immediately north and south of the building is paved parking. Further south of the building is a grass hill that slopes towards Washington Street. Access to the Property is restricted by a 6-foot-high chain-link fence.

The building was constructed in two stages. The approximately 8,400-sf northern portion of the building was constructed in 1955. An approximately 12,200-sf addition was constructed in 1977. The building is slab on grade construction. Approximately 3,300 sf of the building was constructed at natural grade with the remainder of the building constructed on approximately 4 feet of fill.

3.1.2. Residential and Commercial Properties Location and Description

In addition to the Property, the Site includes several blocks of residential and commercial properties which are listed in Table 2-1 and shown in Fig. 1-2. Residences at the Site include single family homes, condominiums, apartments, and other multifamily dwellings. Since the 2008 Phase II CSA, Partial PSSs have been prepared for many of the properties within the Site as discussed in Section 9.5.3 and several of the properties have been redeveloped.

For most of the redevelopments, GEI worked with the owners to install a vapor mitigation system during construction. The properties that have had a change in use since the 2008 Phase II CSA are:

- A carport garage at 34 Knowlton Street was demolished and the property redeveloped with a multi-family residence with 2 condominium units.
- The Veterans of Foreign Wars (VFW) Post (163 Glen Street) was redeveloped into a residential condominium unit with 11 units.

- The parking lot at VFW Post (31 Tufts Street) was redeveloped into an affordable housing rental building with 16 rental units.
- The automobile repair garage at 103 Washington Street was demolished and the property was redeveloped as a mixed-use building with commercial space and open-air parking on the first floor and six residential condominium units above.
- The multi-family house at 105 Washington Street was demolished and the property redeveloped as a mixed-used building with open-air parking on the first floor and seven residential condominium units above.
- The small commercial building at 121 Washington Street was demolished and the property redeveloped as a mixed-use building with commercial space (currently unfinished) on the first floor and five residential units above.
- 5 Palmer Avenue was acquired by the City, the residence was demolished, and the property was incorporated into the adjacent community garden.
- A single-family residence was constructed at 84 Franklin Street which was previously a vacant lot.

Land parcels without occupiable structures include:

- 10 Alston Street (structures are garages only).
- Tax Assessors' Map 93 block B, lot 7 (parking associated with 14 Knowlton Street)
- Tax Assessor's Map 104, block A, lot 65 (Franklin Street, parking associated with Capuano School).
- Tax Assessor's Map 104, block A, lots 5 and 5A (parking associated with 19 Knowlton Street)
- Tax Assessor's Map 104, block E, lot 8 (Franklin Street).
- 90-102 Washington Street (Tax Assessor's Map 106, block A, lot 6)

3.1.3. Capuano Center Location and Description

The Site includes the Capuano Center located at 150 Glen Street. The Capuano Center is an 85,448-sf, 2-story public school located on an approximately 172,509-sf developed lot. In addition to the Capuano Center building, the lot contains a playground, soccer field, basketball court, and paved parking areas. Three community gardens are located on the Capuano Center property on the corner of Glen and Oliver Streets, and on the corner of Franklin Street and Palmer Avenue.

3.2. Disposal Site Map

A Site Plan, including the locations of borings and monitoring wells and the Site boundary, is in Fig. 1-2. The Site boundary is primarily based on the concentration of chlorinated VOCs, particularly PCE less than the laboratory reporting limit of 1.0 µg/l in the shallow overburden groundwater and PCE or PCE degradation products in deep overburden groundwater and bedrock groundwater. Laboratory data which is compliant with MassDEP's Compendium of Quality Assurance and Quality Control Requirements

and Performance Standards for Selected Analytical Methods (CAM) was used to establish the Site Boundary.

The disposal site boundary was defined by the concentration of PCE in the deep overburden and bedrock, since that time, PCE has decreased to single digit concentrations or below laboratory reporting limits although the boundary of the disposal site remains unchanged due to the natural attenuation of PCE and the presence of degradation products (TCE, 1,2-DCE, and vinyl chloride).

3.3. Site Vicinity

The Site is in a residential and commercial neighborhood (Fig. 1-2). The Site is abutted by the following:

- Residences and commercial properties, Alston Street, and Cross Street to the west.
- Franklin Avenue to the east.
- Selected residences, Dell Street, Glen Street, and Franklin Street to the north.
- Washington Street, New Washington Street, and commercial and residential properties to the south.

3.4. Nearby Chlorinated VOC MassDEP-listed Releases

Based on our review of state and federal databases (EDR 2026), GEI identified three sites within 0.25 miles of the Site that are associated with releases of chlorinated VOCs.

3.4.1. Release Tracking Numbers 3-2665 and 3-2672

In 1989, IES Inc. (IES) of Somerville, Massachusetts, performed Environmental Site Assessments for Tauro Realty Co. at 308 McGrath Highway and 182 Washington Street in Somerville, Massachusetts. Chlorinated VOCs (PCE, TCE, 1,1,2,2-tetrachloroethane, and cis-1,2-DCE) and total petroleum hydrocarbons (TPH) were detected in soil and groundwater above applicable MCP reportable concentrations. The petroleum hydrocarbon contamination was attributed to historical use of the properties as a gas station (182 Washington Street), and a machine shop and various automobile repair businesses (308 McGrath Highway). MassDEP assigned RTN 3-2665 and 3-2672 to the petroleum release and chlorinated VOCs release, respectively.

In 2009, MassDEP closed out the RTN 3-2665 with a No Further Action (NFA)/Response Action Outcome (RAO) determination. In 2019 a Downgradient Property Status (DPS) was submitted for RTN 3-2672 identifying the Embassy Dry Cleaners at 179 Washington Street as the likely source of chlorinated VOCs (Section 3.4.2).

3.4.2. Release Tracking Number 3-27087

In August 2007, the MassDEP began investigating a former dry-cleaning business at 163 (formerly 179) Washington Street in Somerville due to detected releases of chlorinated VOCs in groundwater at nearby properties. High concentrations of PCE were detected in groundwater and indoor air at the site, and MassDEP assigned RTN 3-27087 to the release. MassDEP completed a vapor intrusion assessment

starting at the former Embassy Dry Cleaners located at 179 Washington Street and extending to the south approximately 600 feet to include the residential homes and small businesses on Mansfield Street and McGrath Highway. MassDEP had vapor mitigation systems installed at 179 and 182 Washington Street and 51 Mansfield Street.

The source of RTN 3-27087 (179 Washington Street) is approximately 800 feet southwest of the 50 Tufts Street property on the opposite side of McGrath Highway. Groundwater flows south across Washington Street, cross gradient and significantly outside the plume associated with RTN 3-23246. The contamination associated with RTN 3-27087 is unlikely to have impacted the area within the Site.

3.4.3. Release Tracking Number 3-28231

Chlorinated VOCs have historically been measured under Washington Street where the primary utility corridor at the Site is located. In 2008, based on investigations of the MBTA storm drain system that flows to the Millers River in Charlestown, Massachusetts, GEI reported a potential condition of SRM and MassDEP assigned RTN 3-28231 to the release.

Chlorinated VOCs, particularly PCE, were detected in three storm drain catch basins on Washington Street underneath the railroad overpass. Concentrations of PCE detected in the catch basin samples were between 406 and 5,170 µg/L. GEI observed that the natural groundwater level was likely above the elevation of the road surface at the MBTA bridge underpass.

GEI submitted an IRA Completion Statement, Method 3 Risk Characterization, and Class B-1 Response Action Outcome (RAO) Statement on October 15, 2009. The IRA Completion Statement concluded it is not likely that increasing concentrations of chlorinated VOCs would be infiltrating the storm drain system, and no Imminent Hazards (IH) or CEPs existed at the Site. The Class B-1 RAO Statement and Method 3 Risk Characterization concluded that a condition of NSR existed and no remedial actions were required.

On June 9, 2016 – nearly seven years after GEI submitted the RAO Statement – MassDEP sent written notice to UniFirst that it would be conducting another audit. On December 12, 2019, more than three years later – nearly ten years after GEI submitted the RAO Statement – MassDEP issued a NAFNON.

The NAFNON stated that MassDEP evaluated and confirmed the findings in the Method 3 Risk Characterization that human health risk estimates for the Site were below applicable Cumulative Cancer and Non-cancer Risk Limits. The NAFNON concluded, however, that the Massachusetts Surface Water Quality Standards (MSWQS) for human health, which are based on exposure resulting from consumption of fish and shellfish, are potentially applicable or suitably analogous standards applicable to the Site. Because concentrations of PCE and TCE reported in some of the MBTA NPDES discharge monitoring reports for the stormwater discharge exceeded the MSWQS, the NAFNON stated, “a Condition of No Significant Risk to Human Health cannot be supported.”

On January 31, 2020, GEI prepared and submitted a Revised Permanent Solution Statement without Conditions and Revised Method 3 Risk Characterization for the Storm Drain Site. The Revised Method 3 Risk Characterization established that a condition of NSR to human health, safety, public welfare, and the environment exists for all receptors with No Conditions, and no remedial actions are required. There are

no applicable or suitably analogous standards for the Millers River portion of the Storm Drain Site. In addition, average concentrations of PCE and other chlorinated VOCs measured in 5 rounds of surface water sampling collected at 11 locations in the Millers River were below the MSWQS, and even under theoretical worst-case conditions concentrations of PCE and other chlorinated VOCs in the Charles River will not exceed MSWQS.

3.5. Natural Resource Areas and Surrounding Land Use

Based on background information and the Massachusetts Geographic Information System (MassGIS) Natural Resources Map for the Site (Fig. 3-1) dated January 28, 2026, environmental setting and potential sensitive receptors of the Site and its vicinity include:

- Residential Population: Because the Site is an urban area, it is estimated that greater than 1,000 residents live within 0.5-mile of the Site.
- On-Site Workers: Residential and other commercial properties within the Site are occupied.
- Institutions: The Michael E. Capuano Early Childhood Center is approximately 350 feet east of the Property, located within the Site.
- Drinking Water Supplies: There are no known drinking water supplies (Zone II areas, Interim Wellhead Protection Areas, Zone A areas, Potentially Productive Aquifers, or private wells) or Sole Source Aquifers within 500 feet of the Site.
- Surface Waters and Wetlands: There are no known wetlands, vernal pools, ponds, lakes, or reservoirs within 500 feet of the Site. The nearest surface water is the Mystic River, located approximately 0.9 mile east of the Site.
- Fish Habitat: There is no known fish habitat within 500 feet of the Site.
- Area of Critical Environmental Concern (ACEC): According to the MassGIS map, the Site is not located in an ACEC.
- Threatened or Endangered Species: According to the MassGIS map, there are no Natural Heritage and Endangered Species Program Estimated Habitats for Rare Wetlands Wildlife within 500 feet of the Site. According to the Massachusetts Natural Heritage Atlas, there are no priority habitats of rare species, estimated habitats of rare wildlife, or certified vernal pools within 500 feet of the Site.
- Protected Open Space: According to the MassGIS map, the Capuano Center, located approximately 350 feet east of the Property, is a Protected Open Space. There are no other known Protected Open Spaces within 500 feet of the Site.

3.6. Current Site Utilities

Based on a review of readily available subsurface utility plans, underground utilities at the Site include water, sewer, storm drain, gas, electric, communication, and fire alarm box electrical lines.

The GLX project made significant improvements to the stormwater collection and drainage system associated with Washington Street in connection with construction of a new overpass, tracks, station,

and supporting infrastructure. Improvements to the storm drain system include a new groundwater collection system beneath Washington Street to prevent uplift pressure and flooding, a new stormwater collection system, a new Washington Street pump station, and new or relined piping extending from the railroad right of way (ROW) located west and south of the 50 Tufts Street property, to Washington Street, and to the new pump station. The GLX Project modifications to the MBTA storm drain system were completed in approximately fall 2020.

3.6.1. Tufts Street Utilities

A sewer line runs down the center of Tufts Street. A water line runs down Tufts Street on the west side of the sewer line. Gas and electric lines run down the northeastern side of Tufts Street. There are several service connections from the main sewer line to the Property. Gas and electric service connections are located on the northeast corner of the Property building. Water lines connect to two hydrants on the Property and one near the intersection of Knowlton and Tufts Streets.

The Tufts Street sewer line drops in elevation from the northwest end of Tufts Street to the southeast end at the intersection with Washington Street.

The City of Somerville is constructing the Tufts Street Improvement Project to implement traffic calming and accessibility improvements that will reconstruct sidewalks, install new raised stormwater inlets drains and other stormwater system enhancements to improve the current stormwater management system, and repave Tufts Street between Cross Street and Washington Street. Most excavations will be limited to 3 feet below grade with some excavations for stormwater management components extending to 5 feet below grade. The limits of work are shown in Figures 3-2 and 3-3. Construction is ongoing and is anticipated to be completed in 2026.

3.6.2. Residential and Commercial Properties Utilities

Sewer lines typically run down the center of each street within the Site, with a notable exception of the sewer lines being located beneath the eastern sidewalk on Franklin Street. Gas and water lines are located on either side of the sewer line. Electric lines run underground on Tufts Street and a small portion of Glen Street near the fire alarm box electrical lines.

4. Disposal Site History [310 CMR 40.0835(4)(c)]

Additional details regarding Site history, property ownership, oil and hazardous materials (OHM) storage and use, waste management and references for the information presented in this section are in the 2008 Phase II CSA.

4.1. Ownership and Operation History of the Site

4.1.1. The 50 Tufts Street Property Ownership and Operation History

The ownership and operational history of the Property is documented through historic maps, public records, and deeds. References for the Property history including the 2008 EDR Report, a map of the Site vicinity dated 1872 and Sanborn Maps are in the 2008 Phase II CSA.

Initially, residences were on the site from 1874 through at least 1900, with all structures removed by 1950. Superior Products Co., Inc. (1950) acquired the Property in 1954, building an office and warehouse for their industrial chemicals and laundry supplies business. Ownership transitioned in 1976 to Superior Products & Equipment Co., Inc. (1976), a subsidiary of Interstate Uniform Services Corporation (now UniFirst). In 1985, the John Danais Co., Inc. purchased the business assets and leased the Property, subsequently forming 50 Tufts Street, Inc., which acquired the Property in 1987. The Property housed laundry supply operations and later served moving and storage companies into the 2000s. After foreclosure in 2005, Somerville Two LLC became the current owner and John's Auto Sales has leased the building, using it as an automobile storage warehouse. UniFirst purchased the property in 2009. The current tenants are Rx Strength Training, a strength and fitness gymnasium and Emerson College Department of Theater who uses the space for costume and set storage.

4.1.1.1. Potentially Responsible Parties

In a Notice of Responsibility (NOR) dated November 9, 2005, MassDEP identified UniFirst as a PRP.

4.1.2. Residential and Commercial Property Ownership and Operation

The historical ownership and operational activities of residential and commercial properties within the site, excluding the main Property and Capuano Center, has been largely residential since 1888, with some commercial and periodic industrial activities. Knowlton and Morton Streets remained undeveloped until about 1900. The railroad, between the Property and Alston Street, has existed since at least 1888.

The Capuano Center property was originally undeveloped land featuring a small pond in its northern section. The land remained undeveloped until about 1950, when it became a playground; the pond's infill date is unknown. The site served as a playground until 2001, when the City of Somerville acquired it and neighboring residences through eminent domain to construct the Capuano Center.

4.2. Site Release History

Four historical hazardous material releases at the Property, each assigned a unique Release Tracking Number (RTN). The original release was assigned RTN 3-23246 and subsequent releases were then linked to it:

- RTN 3-23246: In 2002, environmental testing measured PCE, TCE, and other chlorinated VOCs in soil and groundwater at levels above applicable MCP reporting limits regulatory. The release was reported to MassDEP in 2003, and a NOR was issued to 50 Tufts Street, Inc. in October 2002.
- RTN 3-24376: In August 2004, groundwater sampling near Tufts Street residences detected high concentrations of VOCs, exceeding a MCP 72-hour reporting threshold. MassDEP issued a NOR to 50 Tufts Street, Inc. and required an IRA to address potential exposure and migration risks.
- RTN 3-24358: In September 2004, indoor air sampling in the office portion of the 50 Tufts Street building detected elevated PCE and TCE levels, posing a potential IH to workers. The tenant reported the condition to MassDEP, resulting in a NOR to the John Danais Company, the property owner.
- RTN 3-26114: Quarterly indoor air sampling was conducted by GEI in 2006 at several residences on Tufts Street. In August 2006, high concentrations of PCE detected at 23 Tufts Street indicated a potential IH which was assigned RTN 3-26114. Subsequent testing in August showed lower PCE concentrations, prompting UniFirst to retract the IH Notification in September 2006. However, MassDEP disputed the retraction and required an IRA Plan. GEI submitted and later modified the IRA Plan in April 2007, expanding the indoor air investigation to additional nearby residential and commercial properties on Alston, Franklin, Knowlton, Morton, Dell, Tufts, and Glen Streets. For administrative purposes, MassDEP incorporated the off Property indoor air investigation locations under RTN 3-26114.

There have been several reported releases of OHM at commercial properties within the Site that do not involve chlorinated VOCs. These MassDEP listed release sites have achieved regulatory closure.

4.3. Current MCP Reporting Requirements

In Ms. Gladstone's letter of November 11, 2024, to Dr. Andrew Friedman of MassDEP, GEI documented that in on March 7, 2007, Ms. Irene Dale of MassDEP, determined that the downgradient properties associated with the 50 Tufts Street Site were all to be handled under RTN 3-26114 and that additional notification to the Department and the generation of new RTNs were not required for each potential successively impacted property downgradient. This was done consistent with 310 CMR 40.0317 which states in part that the "the following releases are exempt from the notification requirements stated in 310 CMR 40.0300," "(16)(b) a release notification was previously provided to the Department for the disposal site on which the release has been observed or documented; and (c) such presence of oil and/or hazardous material is consistent with the types, nature, exposure potential and quantities of oil and/or hazardous material for which that notification was provided to the Department."

In an email of December 13, 2024, Dr. Friedman replied to Ms. Gladstone that the March 7, 2007 MassDEP follow-up office response was incorrect, inferring that a 72-hour notification that has not been

previously made for a building would require a new notification. Ms. Gladstone, in her email of January 10, 2025, requested additional clarification of this change to not only how reporting had been conducted on the Site, but the conflict with existing regulations, published guidance, and years of successful and protective practices at the Site. It was also noted that because of these deviations from guiding principles, it is unclear when a new reporting condition would be triggered. Copies of the November 11, 2024, letter, and December 13, 2024, and January 10, 2025 emails are in Appendix D.

This ambiguity regarding regulatory requirements for the Site was also demonstrated in the NAFNON, when MassDEP suggested that seven buildings[5], where owners refused vapor mitigation systems, be evaluated for the presence of a CEP, based on indoor air sampling. In a letter of October 31, 2025, Jeffrey Talbert, Esq., of Arnold & Porter clarified that the indoor air sample results would be evaluated based on whether they posed a Condition of NSR, not if they indicated the presence of a CEP, since the Site is in Phase V and there is not an open IRA. A copy of the October 31, 2025 letter is in Appendix D.

MassDEP has not provided a response to Ms. Gladstone's January 10, 2025, email or Mr. Talbert's October 31, 2025 letter.

4.4. Site OHM Use and Storage History

4.4.1. The Property OHM Use and Storage History

According to Somerville Fire Department records OHM stored and/or used at the Property included PCE, TCE, TCA, and various solvents and chemicals associated with dry cleaning and laundry operations. The John Danais Company historically stored and distributed large quantities of PCE and other cleaning agents at the site, with material deliveries initially by tanker truck and later by drums. After Somerville Two took ownership, they coordinated the removal of stored chemicals and tanks between August and October 2005, with documentation provided to MassDEP. By December 2005, most large containers and tanks had been removed, although some smaller containers and chemical piping remained. GEI later oversaw the removal and disposal of remaining chemical piping and residual PCE.

4.4.2. Residential and Commercial Properties OHM Use and Storage History

Generally residential and commercial property owners within the Site do not store chemicals in above ground storage tanks (ASTs), underground storage tanks (USTs), drums, or otherwise on their properties. (Exceptions were discussed in the 2008 Phase II CSA.). However, during indoor air sampling events, GEI personnel noted that most residential and commercial properties store household cleaning products, detergents, and other materials that could potentially contain chlorinated VOCs. Residents asked that GEI not undertake a formal inventory or remove such materials prior to sampling. Chemical products in plain view were documented during sampling events on the indoor air sampling checklists previously submitted documents to MassDEP.

[5] 99 Franklin Street, 162-164 Glenn Street, 9 Tufts Street, 11-13 Tufts Street, 17 Tufts Street, 19 Tufts Street, and 25 Tufts Street.

Art supplies and cleaners were identified during 2025 sampling at 11 Morton Street were a confounding source which resulted in the detection of TCE in indoor air that was not associated with the Site. This sampling is discussed in Section 6.2.7.

4.5. Waste Management at the Property

UniFirst operates a SVE/SSDS system at the Property. Soil vapor extracted by the SVE/SSDS system is collected and treated by activated carbon prior to discharge to the ambient air. Because UniFirst generates more than 2,200 lbs of hazardous waste, mostly "spent" carbon from the off-gas control, it maintains RCRA Large Quantity Generator (LQG status). In addition to the "spent carbon," waste generated at the Site includes investigation and mitigation derived waste (IDW) (e.g., soil cuttings and groundwater). Waste is generated and stored onsite in accordance with the large quantity generator regulations under 40 CFR Part 262 until such a time it is transported offsite for treatment and/or disposal. Copies of hazardous waste manifests have been provided in previously submitted reports.

Historical waste management was discussed in the 2008 Phase II CSA.

4.6. Environmental Permits and Compliance at the Property

Historical permits were discussed in the 2008 Phase II CSA.

5. GLX Project

5.1. Background

The Massachusetts Bay Transit Authority (MBTA), through its contractor GLX Constructors (GLXC), has completed the extension of MBTA Green Line service to Union Square in Somerville and beyond to College Avenue in Medford. The GLX Project included significant infrastructure improvements near and through the Site, including a new pump station, reconstruction of the bridge passing over Washington Street, new train tracks within the MBTA right-of-way (ROW), a new train station, and utility improvements. The MBTA, GLXC, and their contractors initiated three RTNs (3-35528, 3-34742, and 3-30620) related to construction activities undertaken at the Site.

5.2. Soil Management

The MBTA and GLXC constructed the GLX Project with a combination of a Utility-related Abatement Measure (URAM) and Release Abatement Measures (RAMs) between 2019 and 2024. Approximately 1,950 cubic yards of soil were initially excavated and managed under a URAM for RTN 3-35528. Additional soil excavation and management was conducted under a RAM Plan, filed by TRC Environmental of Lowell, Massachusetts, on behalf of GLXC, for RTN 3-34742 submitted in July 2019. Approximately 18,000 cubic yards of soil were disposed of off-site under RTN 3-34742.

In addition to the soil managed under RTNs 3-35528 and 3-34742, approximately 5,440 cubic yards of soil were excavated from within the Site boundary as part of GLX Project activities conducted under the Special Projects Designation (SPD) for RTN 3-30620.

5.3. Construction Dewatering

Construction dewatering, groundwater treatment and discharge activities were conducted as part of the RAM for RTN 3-34742. Construction dewatering, generally in Washington Street, and groundwater treatment including with granular activated carbon was conducted between April 2019 and September 2020. More than 8 million gallons of groundwater were pumped and the PCE concentration in the dewatering influent into the treatment system ranged from 410 to 1,660 µg/L over sixteen sampling rounds. The dewatering effluent was treated then discharged to the Millers River through a storm drain. Effluent samples confirmed that treatment was effective in reducing the concentration of chlorinated solvents to below applicable standards prior to discharge; more than half the effluent samples (nine) were less than laboratory reporting limits.

The dewatering process physically pulls groundwater toward the pumping area. The plume may shift as groundwater is actively pumped, leading not only to higher concentration in dewatering influent but also to variations in the concentrations measured at specific monitoring wells throughout and around the active pumping period. Dewatering can shift areas of higher concentration groundwater to areas that previously measured lower concentrations of COCs, which occurred at this Site. These hydraulic changes complicate the interpretation of monitoring data, as fluctuations in concentrations reflect the influence of pumping activities rather than actual changes in stability of the plume.

Dewatering in Washington Street actively moved groundwater and, consequently, influenced the shape, size, and migration patterns of the plume as evidenced by the GWSDAT spatiotemporal visualizations discussed in Section 11.[6] Since the cessation of dewatering, the plume has largely receded back toward its original position, and groundwater conditions have reverted closer to their pre-construction state. However, it is important to note that the reversion of the plume was not immediate; the plume's return to its prior contaminant extent lagged behind the end of dewatering activities by several years and has not fully returned to its pre-pumping conditions. Still, 2026 data have confirmed that the Disposal Site boundaries and groundwater concentration contour lines presented in previous environmental reports remain accurate.

5.4. Improvements to Washington Street Drainage Structures

As part of the GLX project, the MBTA upgraded the existing drainage system which was designed, in part, to address chronic flooding at the low point under the rail bridge and to accommodate the rebuilt rail/bridge infrastructure. A new pump station was constructed north of Washington Street. In Washington Street, new drainage structures were integrated with the bridge and roadway including new drain inlets, subsurface storm drains and new bridge abutments and retaining walls.

The MBTA identified that the chlorinated VOC contamination associated with the Site had the potential to affect existing and new infrastructure. To mitigate those impacts it is our understanding that the MBTA:

- Lined existing storm drains with vinylester resin liner that included the existing 42-inch drain, 20-inch siphons under Washington Street, and a portion of the 54-inch drain south of the proposed Washington Street pump station. These are constructed of reinforced concrete pipe (RCP).
- Waterproofed concrete pipes, the north bridge abutments, and the Washington Street pump station with crystalline concrete.
- Used polyvinylidene fluoride (PVDF) pipe rather than polyvinyl chloride (PVC) pipe for bridge abutment underdrains and track drains.

By introducing new subsurface drains and waterproofing measures, this new drainage infrastructure may have a localized effect on groundwater flow patterns and potentially lower the groundwater table under Washington Street.

5.5. Washington Street Underdrain and Inlet Chamber

The MBTA installed an underdrain system beneath Washington Street at the MBTA railway overpass for the stated purpose of depressing the groundwater level below the roadway at the overpass to prevent the groundwater from exerting an upward water pressure on the pavement. The underdrain system was

[6] Chase Gerbig, P.E., PhD during his presentation at the 4th LSPA Environmental Symposium, April 9, 2026, on "Designing Effective Monitoring Programs and Practical Lessons Learned from the Field," addressed that extraneous conditions could create anomalous trends, which do not necessarily invalidate the effectiveness of Natural Attenuation as the selected remedy. In one example provided, decommissioning of a cross-gradient stormwater infiltration basin shifted the plume and altered the concentration trends of groundwater samples collected from within the plume once the recharging of stormwater into the subsurface ceased. Groundwater monitoring trends may be affected by environmental conditions (e.g., hydrogeologic, geochemical, microbiological, or other changes) that may reduce the efficacy of any of the natural attenuation processes.

designed to perform a separate function from the new storm water collection and drainage system within the roadway.

When the underdrain system was installed, a perforated distribution pipe (located below the water table) rather than a solid pipe was installed. The pipe was intended to carry contaminated groundwater to a two chambered vault at the corner of Tufts and Washington Streets (referred to in design documentation as WS-212) from which contaminated groundwater could be pumped, treated and discharged back into the drainage system. Due to a design and construction error; the vault was taken offline.[7]

5.6. MassDEP's Reliance on GLX Data in the NAFNON

In the NAFNON, MassDEP is relying on data collected by the MBTA during construction to characterize the current conditions in Washington Street and the extent of PCE contamination. Figure 1 of the NAFNON shows two samples collected in Washington Street (Fig. 5-1). One groundwater sample collected from a dewatering trench (PCE up to 1,660 ug/L) in 2019 and a second sample of groundwater infiltrating into the new Washington Street Bridge groundwater collection system (up to 3,200 ug/L) in 2021.

MassDEP asserts that based on this data, the extent of PCE in groundwater is underestimated, including by the location of the isopleth that represents a PCE concentration of 20 ug/L. The location of the two data points shown in Figure 1, however, are not reflective of static conditions in the environment, because the GLX construction had the temporary effect of pulling contamination to the Washington Street area through dewatering pumping and groundwater collection.

Validation of the extent of the shallow overburden plume (PCE approaching 1 ug/L) are discussed in Section 12.4.1.

5.6.1. Construction Dewatering Sample

The concentration of PCE (up to 1,660 ug/L) in the sample shown in the NAFNON Figure 1 collected from a dewatering trench is not representative of the pre-dewatering or the current groundwater concentrations in Washington Street. Construction dewatering samples are not representative of ambient groundwater conditions because pumping alters hydraulic gradients and flow patterns, drawing groundwater from multiple directions and depths and artificially affecting contaminant concentrations. The pumping pulls higher levels of contamination into the dewatering. In addition, dewatering influent represents a composite of water collected from a hydraulically disturbed area rather than a discrete monitoring point. As a result, these data reflect pumping-induced mixing and redistribution of

[7] The status of the inlet chamber (WS-212) and how it was inactivated is ambiguous. According to MassDEP's letter of March 13, 2025, to Jeffrey Talbert of Arnold & Porter, the MBTA informed MassDEP that "at the time of installation of the perforated pipe and WS-212 the outflow from Structure WS-212 was plugged. After installation, the connection between the pipe and the chamber has been closed. Therefore, water in the pipe is confined within the surrounding water table and the pipe is not influencing migration of the plume." Michael Clark of the BSC Group memorandum of March 12, 2021, to Ileen Gladstone, states that the water level in WS-212 is being monitored "… to understand how the MBTA might operate the underdrain system in the future. GLX/MBTA has confirmed that the valve between the inlet and outlet in WS212 is closed." Mr. Clark has provided the sampling results for water collected from within WS-212 between November 2020 and July 2021 and water level gauging data from both the inlet and outlet portions of WS-212. If the connection between the pipe and the chamber has been closed, as described in the MassDEP letter, there would not be water in WS-212 to gauge or sample.

groundwater, not actual in-place conditions. As a result, this sampling data is not appropriate to include this sampling location among the groundwater contour and Disposal Site area figures because it is not reflective of static groundwater conditions.

5.6.2. Groundwater Collection System Sample

The concentration of PCE (up to 3,200 ug/L) in the sample shown in the NAFNON Figure 1 collected from the Washington Street drainage system was not collected in a trench in Washington Street beneath the bridge as shown on the NAFNON Figure 1 , but from a concrete vault (WS-212) at the southern end of the 50 Tufts Street property just north of Washington Street (Fig. 5-1). The water samples collected from WS-212 are not representative of current groundwater conditions in Washington Street because:

- The vault (WS-212) is located at the southern end of the 50 Tufts Street property, immediately north of Washington Street, in a known area of high VOC contamination as demonstrated by the concentrations of PCE in KE-204 (14,000 ug/L in 2007) and MW104R (2,200 ug/L in 2024).
- Due to the design and construction errors, the point of origin of the water sampled from the vault is unknown, and the water is not representative of the groundwater along Washington Street at the location of WS-212. The intent of the underdrain design was to collect groundwater only when levels rise above the elevation of the underdrains which occurs infrequently. Because the perforated conveyance pipe was located at a lower elevation than the underdrains, water would have flowed through the collection system and into the vault continuously. In addition to collecting groundwater along Washington Street, the perforated conveyance pipe also passes through the area of groundwater adjacent to the vault, which has higher CVOC concentrations than the areas around the underdrains, so the water entering the vault would contain higher CVOC concentrations than if water were only entering through the underdrains.
- An additional uncertainty regarding the water in the vault is based on the communication between the MBTA and MassDEP (footnote 5). The MBTA communicated that after installation of the perforated conveyance pipe, the connection between the pipe and the chamber was closed which would prevent water from entering the chamber.
- The samples collected in 2021 followed construction dewatering in Washinton Street between 2019 and 2020, which temporarily pulled higher contaminant levels into Washington Street. It is important to note that the reversion of the plume was not immediate; the plume's substantial return to its prior pre-pumping conditions lagged behind the end of dewatering activities by several years and has not fully returned to its pre-pumping conditions. Therefore, the 2021 sample results are artificially elevated compared to present-day conditions.

While this sampling data from the groundwater collection system provides some value in overall assessment of conditions at the Site, it is not appropriate to include this sampling location among the groundwater contour and Disposal Site area figures because it is not reflective of static groundwater conditions.

6. Indoor Air Testing Required by NAFNON

6.1. Introduction

As required by the NAFNON, GEI has been conducting indoor air sampling at residences where an EPMM had been installed or at which owners historically refused mitigation systems. At this time, sampling conducted to date has indicated that either EPMMs remain effective at mitigating vapor intrusion pathways, or that EPMMs are not necessary to achieve a condition of NSR at specific residences. The IRA Completion Report for the Site was submitted in 2009 and amended in 2011, concluding that CEPs had been mitigated to the extent feasible, including in certain cases because property owners within the Site boundaries had refused UniFirst's offers to install mitigation systems.

Indoor air testing to satisfy the requirements of the NAFNON has been conducted between February 2025 and March 2026 and is summarized below and shown on Fig. 6-1. Sixteen residences were identified by MassDEP for sampling; however, 91-93 Franklin Street was erroneously identified as two buildings, and therefore there are only fifteen residences[8]. To date, we have obtained access to 11 of the 15 properties. Table 2-4 is a summary of our attempts to contact the property owners, which included outreach by certified mail, email (when available), phone (when available), and in-person visits. GEI updated Ms. Tiffany Duhl of MassDEP of our progress by email on February 12, 2026 (Appendix D). Details of the sampling, including laboratory data reports, are in the following:

- Phase V Status Report No. 28 and RMR No. 43, dated August 5, 2025
- Phase V Status Report No. 29 and RMR No. 44, dated February 9, 2026
- "Indoor Air and Soil Vapor Results" letter dated June 12, 2026.

As discussed in the letter sent by Mr. Jeffery Talbert of Arnold & Porter on October 31, 2025, to Mr. Eric Worall of MassDEP (Appendix D), indoor air data collected will be evaluated to confirm a Condition of NSR at each location. Although a CEP may exist, the requirement to mitigate these CEPs to the extent feasible has already been satisfied and is no longer applicable at the Site because the IRA has been completed and the Site has been fully assessed.

The indoor air samples are sampled by EPA Method TO-15 with the following modified list of analytes:

- 1,1-DCA
- 1,1-DCE
- trans-1,2-DCE
- cis-1,2-DCE
- TCA
- 1,1,2,2-Tetrachloroethane
- 1,1,2-TCA
- PCE
- TCE
- Vinyl Chloride

To simplify the data analysis, if concentrations of all compounds detected in indoor air were less than the applicable MassDEP indoor air residential threshold values (TVr), it was assumed that the detected

[8] This should have been identified as 15 buildings, not 16, because 91 and 93 Franklin Street are a single building.

concentrations pose a Condition of NSR. If the concentration of a detected compound was greater than the applicable TVr, MassDEP ShortForms were used to confirm that indoor air concentrations pose a Condition of NSR to a residential occupant based on a conservative assumed exposure duration of 24 hours per day, in accordance with MassDEP protocols. Completed ShortForms are included in Appendix E.

6.2. Residences with EPMMs

In the NAFNON, MassDEP required 2 rounds of indoor air sampling at 8 properties where passive EPMMs have been installed (91 and 93 Franklin Street; 166-168 Glen Street, 17, 32, and 34 Knowlton Street; 4, 11, and 19-19A Morton Street) to demonstrate the continued effectiveness of the EPMMs. We obtained access to all 8 properties to conduct two rounds of sampling during the 2025/2026 heating season. The testing at all eight residences demonstrates the EPMMs remain effective.

6.2.1. 91-93 Franklin Street

The EPMM continues to be effective at this residence. Sampling was performed on February 28, 2025, and December 19, 2025. One indoor air sample was collected in the basement, and two samples on the first floor, one in each of the units (91 Franklin Street and 93 Franklin Street). Indoor air sampling results are in Table 6-1. Concentrations of PCE were detected above laboratory reporting limits. The detected concentrations of PCE in indoor air are comparable to or less than historical results and pose a condition of NSR; furthermore, they are less than the applicable TVr. No other chlorinated VOCs were detected above laboratory reporting limits.

6.2.2. 166-168 Glen Street

The EPMM continues to be effective at this residence. Sampling was performed on February 21, 2025, and January 28, 2026. One indoor air sample was collected each in the basement and on the first floor. Due to a hardware malfunction in the basement indoor air sample on January 28, 2026, GEI returned on February 6, 2026, to recollect the sample. Indoor air sampling results are in Table 6-2. Concentrations of PCE were detected above laboratory reporting limits in all samples. Trans-1,2-DCE was also detected above laboratory reporting limits in the basement in February 2025. The detected concentrations of PCE and trans-1,2-DCE in indoor air are below the applicable MassDEP TVr in the basement; however, on the first floor, PCE is above. GEI evaluated the potential risks associated with the indoor air concentrations using the current version of MassDEP ShortForms (Appendix E). The evaluation demonstrates that the indoor air concentrations pose a condition of NSR.

6.2.3. 17 Knowlton Street

The EPMM continues to be effective at this residence. Sampling was performed on March 6, 2025, and January 28, 2026. One indoor air sample was collected each in the basement and on the first floor. Indoor air sampling results are in Table 6-3. Concentrations of PCE were detected above laboratory reporting limits. The detected indoor air concentrations of PCE are comparable to or less than historical results and pose a condition of NSR; furthermore, they are below the applicable TVr. No other chlorinated VOCs were detected above laboratory reporting limits.

6.2.4. 32 Knowlton Street

The EPMM continues to be effective at this residence. Sampling was performed on February 28, 2025, and December 19, 2025. One indoor air sample was collected each in the basement and on the first floor. Indoor air sampling results are in Table 6-4. Concentrations of PCE were detected above laboratory reporting limits. The detected indoor air concentrations of PCE are comparable to or less than historical results and pose a condition of NSR; furthermore, they are below the applicable TVr. No other chlorinated VOCs were detected above laboratory reporting limits.

6.2.5. 34 Knowlton Street

The EPMM continues to be effective at this residence. Sampling was performed on February 25, 2025, and December 19, 2025. One indoor air sample was collected each in the basement and on the first floor. Due to a hardware malfunction in the first-floor indoor air sample on February 25, 2025, GEI returned on April 9, 2025, to recollect the sample. Indoor air sampling results are in Table 6-5a. Concentrations of PCE were detected above laboratory reporting limits in the April 2025 first-floor sample. Trans-1,2-DCE was also detected above laboratory reporting limits in all samples. The detected indoor air concentrations of PCE and trans-1,2-DCE are comparable to or less than historical results and pose a condition of NSR; furthermore, they are below the applicable TVr. No other chlorinated VOCs were detected above laboratory reporting limits.

On December 19, 2025, after completion of the indoor air sampling, one sub-slab soil gas sample was collected from the monitoring port installed on the passive venting system riser pipe in the basement to approximate the concentrations of chlorinated VOCs in soil vapor beneath the house. The soil vapor sampling results are in Table 6-5b. PCE and trans-1,2-DCE were detected in soil vapor below the applicable MassDEP residential sub-slab soil gas screening values.

6.2.6. 4 Morton Street

The EPMM continues to be effective at this residence. Sampling was performed on February 27, 2026, and March 6, 2026. One indoor air sample was collected each in the basement and on the first floor. Indoor air sampling results are in Table 6-6. Concentrations of PCE were detected above laboratory reporting limits on the first floor and in the basement during both sampling rounds. Concentrations of TCE were detected above laboratory reporting limits in the basement during both sampling rounds. The concentrations of PCE on the first floor are below the applicable MassDEP TVr; however, in the basement, it is above. The concentrations of TCE in the basement are below the applicable MassDEP TVr. The basement is not a living or working space; it is unoccupied and used for storage. GEI evaluated the potential risks associated with the indoor air concentrations using the current version of MassDEP ShortForms (Appendix E). The evaluation demonstrates that the indoor air concentrations pose a condition of NSR. No other chlorinated VOCs were detected above laboratory reporting limits.

6.2.7. 11 Morton Street

The EPMM continues to be effective at this residence. Sampling was performed on April 8, May 7, July 16, August 21, August 29, and December 19, 2025. TCE was detected in indoor air on the first floor during each sampling event, with the July concentration exceeding the IH level. Although the TCE was

not believed to originate from the 50 Tufts Street disposal site, GEI reported the IH and installed air purifying units (APUs) in July 2025. The presence of art supplies and cleaners in the home, and one resident being an artist, suggested possible confounding sources of TCE. GEI continued to investigate the property to evaluate the source of TCE in indoor air. Following the investigation, GEI concluded that the TCE in indoor air was attributable to the art supplies in the home and there was not an IH associated with disposal site RTN 3-23246. GEI retracted the IH notification in a letter dated September 24, 2025; a copy was included in Phase V Status Report No. 29 and RMR No. 44.

The three indoor air sampling rounds in April, May, and July 2025, were conducted prior to installation of the APUs as part of the initial investigation of TCE. The two indoor air sampling rounds August 2025 were conducted with and without the APUs running to demonstrate their effectiveness. A final round of indoor air sampling was conducted during the heating season in December 2025, in accordance with the NAFNON; the APUs were not running. Indoor air sampling results are in Table 6-7a. Concentrations of PCE, TCE and trans-1,2-DCE were detected above laboratory reporting limits. The concentrations of TCE and trans-1,2-DCE in indoor air are not associated with the disposal site and are attributed to confounding sources in the home. The detected indoor air concentrations of PCE pose a condition of NSR; furthermore, they are below the applicable TVr.

In July, August (21 and 29), and December 2025, after completion of the indoor air sampling, two soil vapor samples were collected from the sub-slab monitoring points installed in July 2025 (SV1 and SV2). The soil vapor sampling results are in Table 6-7b. PCE, TCE, TCA, and vinyl chloride were detected in soil vapor in at least one sample; results were all below the applicable MassDEP residential sub-slab soil gas screening values.

6.2.8. 19-19A Morton Street

The EPMM continues to be effective at this residence. Sampling was performed on February 27, 2025, and December 19, 2025. One indoor air sample was collected each in the basement and on the first floor. Indoor air sampling results are in Table 6-8. Concentrations of PCE were detected above laboratory reporting limits. The detected indoor air concentrations of PCE are comparable to or less than historical results and pose a condition of NSR; furthermore, they are below the applicable TVr. No other chlorinated VOCs were detected above laboratory reporting limits.

6.3. Residences Which Refused EPMMs

The NAFNON also required indoor air testing at seven properties within the Site boundaries for which owners historically refused mitigation systems. Where access was obtained and sampling was conducted, indoor air concentrations posed a Condition of NSR. The seven properties identified are: 99 Franklin Street, 162-164 Glen Street, 9 Tufts Street, 11-13 Tufts Street, 17 Tufts Street, 19 Tufts Street, and 25 Tufts Street. We have reached out to the properties owners to arrange access for indoor air testing. As of March 31, 2026, we obtained access at 19 Tufts Street, 25 Tufts Street, and 162-164 Glen Street and conducted indoor air testing between January and March 2026. We are continuing to attempt to obtain access to the other properties. Further details of our outreach attempts are in Table 2-4.

6.3.1. 162-164 Glen Street

An EPMM continues to be unnecessary at this residence. Sampling was performed on February 6, 2026, and March 9, 2026. One indoor air sample was collected each in the basement and on the first floor. Indoor air sampling results are in Table 6-9. Concentrations of PCE were detected above laboratory reporting limits. The detected indoor air concentrations of PCE were less than historical results and pose a condition of NSR; furthermore, they are below the applicable TVr. No other chlorinated VOCs were detected above laboratory reporting limits.

6.3.2. 19 Tufts Street

An EPMM continues to be unnecessary at this residence. Sampling was performed on January 15, 2026, and March 10, 2026. One indoor air sample was collected each in the basement and on the first floor. Indoor air sampling results are in Table 6-10. Concentrations of PCE were detected above laboratory reporting limits. The detected indoor air concentrations of PCE were comparable to or less than historical results and pose a condition of NSR. The detected concentrations of PCE on the first floor are below the applicable MassDEP TVr; however, in the basement, it is above. The basement is not a living or working space; it is unoccupied and used for storage. GEI evaluated the potential risks associated with the indoor air concentrations using the current version of MassDEP ShortForms (Appendix E). The evaluation demonstrates that the indoor air concentrations pose a condition of NSR. No other chlorinated VOCs were detected above laboratory reporting limits.

6.3.3. 25 Tufts Street

An EPMM continues to be unnecessary at this residence. Sampling was performed on January 20, 2026, and March 6, 2026. One indoor air sample was collected each in the basement and on the first floor. Indoor air sampling results are in Table 6-11. Concentrations of PCE were detected above laboratory reporting limits in all samples. TCE was also detected above the laboratory reporting limits on the first floor in March 2026. The detected indoor air concentrations of PCE and TCE were less than historical results and pose a condition of NSR; furthermore, they are below the applicable TVr. No other chlorinated VOCs were detected above laboratory reporting limits.

6.4. Indoor Air Sampling at 97 Franklin Street

97 Franklin Street was not identified in the NAFNON. However, due to increases measured in the concentration of PCE in MW122, which is approximately 10 feet from 97 Franklin Street, GEI voluntarily conducted additional sub-slab soil vapor and indoor testing to confirm that Site conditions continued to pose a condition of NSR. Conducting this additional sampling is consistent with EPA guidance for contingency remedies based on unexpected trends (EPA, 2025). Based on the testing, an EPMM continues to be unnecessary at this residence.

97 Franklin Street is a single-family residence located approximately 550 feet east of the Property. In June 2007, GEI collected two subslab soil vapor samples from the two sub-slab monitoring points installed at that time (SS-1 and SS-2). PCE was detected in these samples (Table 6-12b). GEI collected indoor air samples from the basement and first floor in September 2007, February and July 2008, January 2009, and March 2010. PCE was not detected above laboratory reporting limits in these

samples, except for the sample collected in the basement in March 2010. The historical indoor sampling results are in Table 6-12a. The basement is not a living or working space; it is unoccupied and used for storage.

In 2011, based on the indoor air sampling results and exposure durations of 12 hours on the first floor and 12 hours in the basement, the Updated Revised Supplemental Method 3 Risk Characterization concluded a condition of NSR for the property.

Sampling was performed on May 24, 2024, February 19, 2025, and February 10, 2026. One indoor air sample was collected on the first floor, second floor, and in the basement. During the sampling in February 2026, the hardware used to collect the sample on the second floor malfunctioned, and the sample could not be analyzed by the laboratory. Indoor air sampling results are in Table 6-12a. Concentrations of PCE were detected above laboratory reporting limits in all samples except for the May 2024 second floor. Concentrations of TCE were detected above laboratory reporting limits in all samples in May 2024 and February 2025. Concentrations of TCA were detected above the laboratory reporting limits in the basement in May 2024 and February 2025. The detected concentrations of PCE, TCE, and TCA are below the applicable MassDEP TVr, except for PCE and TCE in the basement sample collected in May 2024, and TCE in the basement sample collected in February 2025, it is above. GEI evaluated the potential risks associated with the indoor air concentrations using the current version of MassDEP ShortForms (Appendix E). The evaluation demonstrates that the indoor air concentrations pose a condition of NSR.

In May 2024, February 2025, and February 2026, after completion of the indoor air sampling, two soil vapor samples were collected from the previously installed sub-slab monitoring points (SS-1 and SS-2). The soil vapor sampling results are in Table 6-12b. All chlorinated VOCs detected above laboratory reporting limits in sub-slab soil vapor samples, both historical and recent, were below the applicable MassDEP residential sub-slab soil gas screening values.

7. Subsurface Investigation Testing Results

Subsurface investigations associated with the disposal Site have been conducted since 2002, encompassing soil, groundwater, and soil vapor sampling in the surrounding streets; sub-slab soil vapor sampling and indoor sampling have also been collected throughout the Site. These data, along with collection methodology, boring logs, well completion reports, analytical results and laboratory data reports have been previously submitted in various MCP submittals. Additional soil sampling associated with development projects or GLX construction has been documented in RAM reports prepared by GEI or MBTA contractors. Most of this data is not provided in this 2026 Phase II CSA Addendum. However, we are including pertinent information and data which refines and confirms the existing CSM in accordance with NAFNON requirements.

7.1. Soil Borings and Groundwater Monitoring Wells

MCP response actions at the Site began in October 2003 and have been ongoing since that time. Subsurface site investigations including advancing soil borings and installing groundwater monitoring wells include:

- 2002-2003: Sanborn Head and Associates
- 2004: GeoInsight, Inc.
- 2006-2026: GEI
- 2007: MassDEP
- 2012-2014: Kleinfelder Associates, on behalf of the MBTA
- 2012-2014: EBI Consulting, on behalf of Cobble Hill Apartment Company
- 2012-2018: McPhail Associates, on behalf of Cobble Hill Apartment Company
- 2014: TRC Environmental Corporation, on behalf of Somerville Community Corporation
- 2017: IES Environmental Consultants, Inc., on behalf of Wash Dev, LLC
- 2020: TRC Environmental Corporation, on behalf of GLX Constructors
- 2024: Atlas Technical Consultants, LLC, on behalf of the City of Somerville

Groundwater monitoring wells (MW401D, MW401S, and MW402 through MW407) were installed by GEI between September and December of 2025 to collect additional data to evaluate the extent of site contamination, plume stability and the potential presence of measurable DNAPL. Groundwater monitoring wells were installed in the source area (50 Tufts Street), at several locations within the core of the plume and south of Washington Street. It is infeasible to install wells in Washington Street due to the extensive number of utilities beneath the roadway and abutting sidewalks. The details of those investigations are in Phase V Status Report No. 29 and RMR No. 44, dated February 2026 and Data Transmittals dated June 12, 2026.

Table 7-1 is a summary of boring and monitoring wells installed at the Site. Locations of borings and monitoring wells are shown in Fig. 7-1. For convenience, boring logs and well completion reports from previous site investigations are in Appendix F.

7.2. Soil Testing Results

Historical soil sampling results associated with Site investigations have been provided in previous MCP submittals by GEI or MBTA Contractors. More recent soil samples have been collected by Atlas to support the City of Somerville Tufts Street Improvements Project conducted as Utility Release Abatement Measure (URAM) under RTN 3-51811. Except for the soil adjacent to the 50 Tufts Street driveway, the concentration of PCE in all soil sampled by Atlas was less than the MCP Method 1 S1/GW1 standard (1 mg/kg) as discussed in the URAM Plan and Contained-In Determination (CID) prepared by Atlas (Atlas, 2025)

During the installation of borings MW403 and MW404 on the Property in September and October 2025, GEI performed oil-in-soil tests in the field; none of the tests indicated DNAPL in the overburden. Additionally, for MW403 and MW404, GEI collected three samples for laboratory analysis from the fill, water table, and overburden-bedrock interface intervals for laboratory analysis of VOCs. The results are summarized in Table 7-2. Additional information regarding the soil sampling, including laboratory data reports, is provided in Phase V Status Report No. 29 and RMR No. 44, dated February 2026.

7.3. Groundwater Testing Results

7.3.1. Groundwater Sampling

A summary of all GEI groundwater sampling activities at the Site, including dates of sampling, is in Table 7-3. GEI measured groundwater levels at monitoring wells shown in Table 7-4. Monitoring well locations and the monitoring wells sampled by GEI are shown in Fig. 7-2.

7.3.2. Chlorinated VOCs

VOC groundwater sampling and analysis data are available for 81 monitoring wells, with certain wells being sampled beginning in 2002. Historical groundwater sampling results collected to date are in Table 7-5.

GEI conducted site wide groundwater sampling in November 2025 and February 2026 which included the eight new monitoring wells installed in 2025 (MW401S, MW401D, MW402 through MW407). Additional groundwater samples have been collected from MW122 on January 7, 2026, and February 4, 2026 to supplement the investigation at this location. The laboratory data reports were previously submitted.

Groundwater sampling conducted on behalf of the MBTA between 2012 and 2014 by Kleinfelder, and between 2020 and 2023 by TRC, as part of the GLX Project is summarized in Table 7-5.

In each round of the groundwater sampling, VOCs were detected above the laboratory RLs in the monitoring wells at the Site except for MW110, MW113, MW114, MW115R, MW117S, and MW118S. Monitoring well MW110 is considered accessing perched groundwater and has not been sampled

since 2007. Monitoring wells MW113 and MW114 are destroyed and have not been sampled since 2008. The laboratory identified at least one of the 40 VOCs listed in Table 7-5. Chlorinated VOCs, particularly 1,1-DCE, PCE, TCE, and TCA were detected in groundwater samples collected from more than half of the monitoring wells.

7.3.3. Natural Attenuation Parameters

Limited natural attenuation (NA) indicator parameters, primarily iron, manganese, dissolved gases, nitrate and nitrite, sulfate, and total organic carbon, were collected at select groundwater monitoring well locations over the course of response actions performed to date. These NA parameter data are also in Table 7-5.

7.4. Geophysical Surveys

In April and June 2007, GEI engaged Hager Geoscience (Hager) of Woburn, Massachusetts to perform a Site wide geophysical survey to locate the bedrock surface. Hager conducted the survey by performing approximately 17 transects using ground penetrating radar (GPR) and three transects using seismic methods. Seismic methods were used to calibrate GPR depth conversions. Hager performed GPR transects using two different antenna frequencies, 40 and 100 megahertz (MHz). The full GPR survey report was included in the 2008 Phase II CSA. Results from the GPR survey were interpolated for the top of bedrock elevations shown on the cross sections (Figs. 8-5 through 8-9, introduced in Section 8).

Between October 16 and 24, 2025 GEI engaged Hager-Richter Geoscience (HRGS) of Derry, New Hampshire to perform borehole geophysical surveys of bedrock borings MW403 and MW404 drilled at the Property. The borehole geophysics testing included Fluid Temperature and Fluid Conductivity/Resistivity, Optical Televiewer (OTV), Acoustic Televiewer (ATV), Caliper, Heat Pulse Flow Meter (HPFM) under ambient conditions and under pumping conditions. Draft geophysics logs were reviewed during boring and well installation to determine the well screen intervals for the bedrock monitoring wells. The results of the geophysics testing indicated that productive fractures were uncommon in the bedrock. The final geophysics logs are pending and will be included in the next Status Report.

8. Site Geology and Hydrogeology [310 CMR 40.0835(4)(d)]

8.1. Regional Geology

Since 2008, GEI's understanding of the fill history, surficial geology, topography, and hydraulic conductivity remains unchanged; more detailed information on the Site geology is available in the 2008 Phase II CSA Report.

The Site is located approximately 15 to 35 feet above sea level (Fig. 1-1) within the Charles River and Mystic River drainage basins. Tidal inlets southeast of the Site were filled by 1860, including Miller's Creek, Mill Pond, and Prison Point Pond. Land along the Mystic and Charles Rivers were also filled with unknown materials over salt marshes and shallow areas.

The regional surficial geology is characterized by river valleys filled with unconsolidated deposits like estuarine silt, peat, and alluvium, underlain by marine clay and till. Locally, urban fill lies above glacial till, with stratified drift consisting of sand, gravel, soils, and minor clay. Organic soils and fill are near former tidal inlets, and rocky terrain with shallow bedrock is southeast in Charlestown.

The Site is within the Boston Basin of the Avalon Terrane, containing unmetamorphosed sedimentary and volcanic bedrock. The main bedrock is Precambrian Cambridge Argillite—gray argillite with sandstone and quartzite layers, often deeply weathered. Depth to bedrock ranges from 3.5 to 55 feet at the Site and up to 100 feet adjacent to the Charles and Mystic Rivers, with bedrock found between 15 to 25 feet at the Property. No significant bedrock highs were found except a ridge from Tufts Street to the Capuano Center. Generalized regional cross sections and a cross-section location plan are in Figs. 8-1, 8-2, and 8-3.

The Site area is characterized by extensive urban development affecting the local topography. The Site's surface topography slopes downward from the northwest (about 35 feet above NAVD 1988) to the southeast (about 15 feet above NAVD), with the property situated at the higher elevation. Regionally, the area slopes gently east/southeast toward the Mystic River and south southeast toward the Charles River.

Hydraulic conductivity of shallow overburden, deep overburden, and bedrock layers were evaluated with both rising and falling head slug tests conducted on various groundwater monitoring wells. The results indicated that hydraulic conductivities varied across geologic units, reflecting moderate to high heterogeneity.

Groundwater generally flows east/southeast toward the Mystic River or southeast toward the Charles River.

8.2. Geology Description

Based on GEI's investigation, individual strata thickness may vary across the borings. The units described below are based on individual boring locations and may not be present everywhere across the Site. GEI encountered the following strata at the Site:

- Fill: Fine to coarse sand with some silt, gravel, and anthropogenic debris (asphalt, ash, brick, cinders, glass, wood chips, concrete) was present to shallow depths at the Site, approximately 1 to 18 feet.
- Silt: Underlying the surface fill deposits is a unit of silt, ranging from 0 to 35 feet thick. It is gray to olive in color with medium density and plasticity. Silt deposits are thickest in the vicinity of a historic pond located on the current Capuano Center property.
- Till: Underlying the silt layer is a unit of glacial till, ranging from 3 to 27 feet thick. The till is a dense unit consisting mostly of fine to coarse sand with varying amounts of silt and gravel. The till layer tends to be thin to absent in locations where bedrock is shallow (e.g., MW116, MW403, and MW404).
- Bedrock: The top of bedrock was encountered in the borings at 3.5 feet deep in MW116, approximately 45 feet deep in MW117D and MW119T, 50 feet deep in MW118D, approximately 23 feet deep in MW120D and MW121D, approximately 25 feet deep in MW403, and approximately 14 feet deep in MW404. A fine-grained, gray, low-grade metamorphic rock was observed in the bedrock borings and identified as argillite of the Cambridge Argillite Formation on the U.S. Geological Survey Bedrock Map of Massachusetts (1983). Quartzite, also considered a characteristic member of the Cambridge Argillite formation, was observed from 55 to 75 feet deep in MW118D. Sandstone, similarly a characteristic member of the Cambridge Argillite formation, was observed from 49 to 90 feet deep in MW404. Typically, the upper 15 to 20 feet of bedrock was highly fractured and highly weathered in the borings where it was encountered.

A cross-section location plan is in Fig. 8-4 and site cross-sections are in Figs. 8-5 through 8-9.

8.3. Groundwater System

Based on subsurface investigations, the groundwater system at the Site is composed of three units:

- Groundwater in shallow overburden in the fill and silt;
- Groundwater in deep overburden; and
- Groundwater in bedrock.

Regional groundwater in the vicinity of the Site is expected to flow either east/southeast toward the Mystic River, or south-southeast toward the Charles River. Based on the Site-specific information presented below and the regional geology cross-sections (Figs. 8-2 and 8-3), groundwater is expected to flow downward into bedrock in the vicinity of the Site and immediately downgradient of the Site as a result of recharge, and then travel laterally until it ultimately discharges into the Mystic or Charles Rivers. This conceptual model of regional groundwater flow is supported by water levels in the study area that are typically higher in overburden than in bedrock.

8.3.1. Groundwater Level Measurements

Depth to water in the shallow overburden ranges from approximately 8.5 to 13 ft. The direction of groundwater flow in the system (shallow overburden, deep overburden, and bedrock) across the central portion of the Site is generally toward the east/southeast – from the Property toward Franklin Street. A groundwater contour plan for the shallow overburden based on November 2025 gauging data is in Fig. 8-10. A groundwater contour plan for the shallow overburden based on February 2026 gauging data is in Fig. 8-11. Previous groundwater elevation measurements have indicated that a hydrological low point exists near the intersection of Tufts Street and Washington Street. Construction dewatering occurring within the hydrological low point during the GLX Project (2019-2020) temporarily shifted the plume trajectory southwesterly as shown on Fig. 8-12. However, once dewatering ended, the contaminant plume reverted to its original path, although not completely. The installation of new utilities under Washington Street likely influenced shallow groundwater flow, preventing full restoration of the plume's previous configuration and establishing a new stable configuration. The flow direction in other portions of the shallow overburden is also locally influenced by underground utilities.

8.3.2. Groundwater Gradients

Groundwater level readings for monitoring wells in different strata (Table 7-4) indicate that in general the shallow overburden exhibits the highest water levels, followed by the deep overburden, and then the bedrock, which has the lowest water levels. Based on these groundwater level measurements, overall, the vertical component of the groundwater gradients are downward in the system, i.e., groundwater flows primarily horizontally in all geological units but with a slight downward component from the shallow overburden into the deep overburden, and subsequently downward into the bedrock. The downward component of flow stems from recharge to the overburden.

8.3.3. Groundwater Sampling Data Discrepancies

With a large groundwater monitoring network, some discrepancies in the data are expected and do not invalidate the CSM. Minor variations can result from differences in well construction, screen interval, sampling method, recharge conditions, seasonal groundwater fluctuations, localized heterogeneity in subsurface materials, and nearby utility or infrastructure influences. Construction dewatering, utility corridors and drainage infrastructure can alter groundwater gradients and temporarily shift contaminant distributions. In a large well network, individual wells may occasionally show results that differ from surrounding locations; however, these localized inconsistencies should be interpreted in the context of long-term trends and the overall body of evidence from the monitoring program (USGS, Rapid Fluctuations in GW Quality, National Field Manual for the collection of Water-Quality Data).

Several monitoring well locations at the Site (MW104/MW104R, MW122, MW112A and GEO-6) have been subject to some of these variables.

8.3.3.1. Monitoring Wells MW104 and MW104R

Monitoring well MW104 was installed at the southern end of the UniFirst property in 2006. It was sampled regularly until April 2017, when it was destroyed by the GLX project contractors. GEI installed what was intended to be a replacement well (MW104R) in 2024 approximately 25 feet further south

than MW104. However, based on sampling results from the new well, MW104 and MW104R are likely not representative of the same dataset. Soil excavation during GLX construction not only destroyed MW104 but also lowered the surface grade; therefore, replacement well (MW104R) is likely screened a deeper interval, in addition to being located further south and closer to the GLX project construction activities. Dewatering during GLX construction temporarily shifted the plume southwesterly and subsurface utilities installed during the GLX project may have affected the observed groundwater conditions within this localized area.

8.3.3.2. Monitoring Well MW122

The NAFNON concludes that the source is uncontrolled because there has been increasing concentrations of PCE and TCE in MW122 due to dissolution of CVOCs from DNAPL. However, MassDEP did not consider the sampling results in context. EPA guidance for MNA focuses on whether dissolved-phase contaminant mass is stable, decreasing or controlled across the plume rather than whether a single monitoring point shows increase (EPA, 2025).

Although, concentrations of PCE in groundwater collected from MW122 were significantly higher than those in neighboring wells, the samples were likely not representative due to poor hydraulic connection with surrounding groundwater, possibly because it is installed in a low-permeability zone or in a lens of material with limited groundwater flow. Since 2008, the well often ran dry and ultimately required grab sampling rather than preferred low-flow methods, which can disturb the aquifer and result in elevated turbidity and high biased VOC concentrations due to the inclusion of soil-sorbed VOCs in the analysis. Low-flow sampling provides more accurate, low-turbidity samples that better reflect true groundwater chemistry. Consequently, the well may not have been yielding representative samples due to turbidity and other factors.

Beginning in November 2025, hydrologic conditions changed at MW122,[9] and groundwater samples could be collected by low-flow sampling. The concentrations of PCE in the samples collected in 2025 and 2026 via low-flow methods are dramatically (one to two orders of magnitude) lower than prior concentrations in samples collected via grab sampling historically. The concentration of PCE in November 2025 was 210 µg/L, compared to the November 2024 (1300 µg/L) and April 2022 (840 µg/L). Concentrations of PCE in the groundwater samples decreased further during January 2026 (42 µg/L) and February 2026 (90 µg/L) sampling events. These more recent results are comparable to the February 2026 groundwater sample collected from MW401S (76 µg/L)[10], which was recently installed to evaluate if the historical testing results at MW122 were truly representative of Site conditions. Based on the recent MW122 low-flow sampling results and comparison with MW401S, the historical grab samples collected at MW122 were likely biased high and did not represent local groundwater conditions.

8.3.3.3. Monitoring Well MW112A

Monitoring well MW112A has been sampled continuously between 2007 and 2026 and continues to show elevated PCE concentrations, this pattern is inconsistent with the trends observed at other wells,

[9] Recent utility construction in Franklin Street or installation of MW401S/D may have affected localized flow and hydraulic conductivity in the vicinity of MW122.
[10] The concentration of PCE (440 µg/L) in the November 13, 2025 groundwater sample was biased high due to blank spike or laboratory control sample recovery above upper control limits.

including those immediately upgradient from MW112A. For example, MW102 had an average PCE concentration of 507 µg/L between 2006 and 2008, but more recent results from 2024 to 2026 show much lower concentrations, ranging from 5.5 to 66 µg/L. Similarly, MW103 averaged 1,443 µg/L between 2006 and 2007, but concentrations during the 2024 to 2026 period have declined to between 27 and 53 µg/L. In contrast, MW-112A remains elevated, although data collected since 2021 (ranging between 220 µg/L and 630 µg/L) does suggest a decreasing trend. The variability of concentrations in MW112A likely reflects localized factors that are not necessarily due to a new uncontrolled condition or DNAPL source, such as differences in well construction, hydraulic connectivity, or geologic heterogeneity, which may result in persistently higher concentrations compared to other monitoring points despite evidence of natural attenuation across the Site.

Although trend graphs indicate increasing concentrations at this location, as discussed in section 11.9, analysis of the geochemical conditions in the subsurface over time indicate favorable conditions for dechlorination through the mechanisms denitrification and methanogenesis[11].

8.3.3.4. Monitoring Well GEO-6

Monitoring well GEO-6 had not been regularly sampled since 2007. The maximum and average PCE concentrations in groundwater samples collected between 2004 and 2007 were 1,980 µg/L and 864 µg/L, respectively. GEO-6 was only gauged for groundwater elevation measurements between 2008 and April 2024, when groundwater sampling for laboratory analysis was resumed. The maximum and average concentration of PCE in groundwater samples collected from GEO-6 between 2024 and 2026 were 2,500 µg/L and 1,825 µg/L, respectively. These concentrations were expected given the trends observed at SH-MW2, upgradient of GEO-6. Since dewatering likely temporarily shifted the plume southwesterly, the average PCE concentration detected in GEO-6 between 2024 and 2026 has been 1,825 µg/L. This more closely resembles the average PCE concentration observed to the north at upgradient well GEO-5, from 2006 to 2007, of 5,119 µg/L. During recent sampling between 2024 and 2026, the average PCE concentration detected at GEO-5 has been 652 µg/L, a significant decline further indicating that the plume was in fact temporarily shifted southwesterly during construction dewatering activities.

Given the recent increase in PCE concentrations observed at GEO-6, and the dramatic decline in PCE concentrations at GEO-5 to the north, it is likely that any increasing trend observed at GEO-6 is attributable to construction dewatering. It is also likely that the PCE concentration will either remain stable or decrease as the impacts of construction dewatering continue to rebound.

[11] NJDEP Monitored Natural Attenuation Technical Guidance, 2022

9. Response Actions Conducted to Date

9.1. Historical Performance Standards

At the time the 2008 Phase II CSA/Phase III RAP, 2009 Phase IV RIP and 2011 ROS Reports were prepared, the MCP required that "a source of OHM which *is resulting or is likely to result in an increase in concentrations* of OHM in an environmental medium either by direct discharge or by intermedia transfer (310 CMR 40.1003[5]) must be eliminated, controlled or mitigated" to achieve a Permanent Solution. By contrast, if a source was **not** resulting in, or was **not** likely to result in an increase in concentrations of OHM in an environmental medium either by direct discharge or by intermedia transfer, then the source elimination and control criteria did not apply.

The analysis of site-specific data conducted by Kueper (2008b) showed that contaminant concentrations in groundwater at the Property and in the downgradient plume are at steady state. The analysis of likely DNAPL conditions at the Site (Kueper, 2008a) illustrated that DNAPL is present in the soil matrix, is not migrating, and is at steady state based on the distribution of contaminant concentrations in groundwater. This conclusion was further supported by the absence of measurable DNAPL in any monitoring well at the Site.

Since, at the 50 Tufts Street Site, the dissolved phase groundwater plume had reached a steady state and any DNAPLs were not migrating, then there was no source resulting in or likely to result in an increase in concentrations of OHM in an environmental medium.

Therefore, the 2008 Phase III RAP did not evaluate remedial actions solely to eliminate or control a source because it was not required (the performance standard at the time). There was no source at the Site (including residual DNAPL) that was resulting in an increase in concentrations of contaminants in an environmental medium. In addition, there is no NAPL Upper Concentration Limit (UCL) condition.

The current MNA Evaluation (Section 11) confirms the 2008 conclusion that natural attenuation and degradation are occurring and therefore the source is controlled. Residual DNAPL, as a source is controlled, when the rate of degradation, dispersion, and other attenuation processes equals or exceeds the rate of DNAPL dissolution, dissolved phase contaminant concentrations remain stable or decrease with distance downgradient. The groundwater plume reaches a dynamic equilibrium, in which contaminant mass entering the plume from DNAPL dissolution is offset by mass destruction and attenuation within the plume. In addition to MNA, long term decreases in contaminant concentrations in the source zone which are attributable to operation of a SVE/SSDS system since 2007 demonstrate additional source control.

The 2014 MCP revisions changed the performance standards for source control regarding a Permanent Solution and now requires that:

a) for a Permanent or Temporary Solution, all unpermitted releases of OHM to the environment are eliminated;

b) for a Permanent Solution, all Sources of OHM Contamination are eliminated, or if they are not eliminated, they are eliminated to the extent feasible and they are controlled;

c) for a Temporary Solution, all Sources of OHM Contamination are eliminated or controlled, to the extent feasible.

Due to the 2014 changes in the MCP, remedial actions regarding source elimination will be evaluated in the Phase III RAP Addendum.

9.2. Remedial Action Plan

GEI identified and evaluated the complete range of potential remedial technologies and remedial action alternatives that could achieve the remedial goals for the Site. Based on this approach, and the results and assumptions documented in the Method 3 Risk Characterization, the following remedial action objectives were identified in the 2008 RAP:

- Eliminate to the extent feasible potential inhalation exposure of current and future residents to chlorinated VOCs in indoor air off the Property and future residents on the Property.
- Eliminate to the extent feasible potential inhalation exposure of current and future occupants of the Capuano Center to chlorinated VOCs in indoor air.
- Where necessary, control potential inhalation exposure of the current and future commercial workers to chlorinated VOCs in indoor air off the Property and on the Property.

The remedial action alternative (RAA) selected by the Phase III evaluation included eliminating exposure pathways:

- Installing EPMMs to the extent feasible (e.g., vapor barriers and venting systems, or SSDS) to mitigate the vapor intrusion pathway and eliminate exposure to reduce chlorinated VOC concentrations in indoor air to that which constitutes a condition of NSR.
- Continuing to operate the SVE/SSDS system at the Property to remove COCs from the vadose zone to accelerate attenuation of the downgradient plume by removing contaminant mass.
- Conducting a Site wide MNA program to evaluate overburden and bedrock groundwater plume concentrations over time to assess the rate of natural attenuation processes, and to confirm that groundwater concentrations of chlorinated VOCs are generally stable or decreasing.

Although not selected as a technology solely to eliminate or control a source, as discussed in Section 11, the MNA Evaluation demonstrates that the SVE/SSDS system, operating at 50 Tufts Street since 2007, provides some source control based on long-term decreases in contaminant concentrations—in the source zone.

9.3. 50 Tufts Street

GEI designed and installed a vapor mitigation system at the 50 Tufts Street property. The design objectives of the combined SVE/SSDS system were to:

- Eliminate or mitigate, to the extent feasible, the soil vapor migration pathway to indoor air.
- Achieve a condition of NSR for a commercial full-time worker.

- Reduce the mass of contaminants in the vadose zone.
- Control the potential migration of soil vapor from the Property to the 60 Tufts Street property.

The remedial system at the Property was initially constructed as a SSDS with 22 extraction points, a 15-horsepower blower, and three large, activated carbon units for off-gas treatment. The building slab was sealed with flexible sealant and epoxy to reduce vapor transmission. SSDS operations began in April 2007. In mid-2007, a SVE system was added, with seven extraction points installed under the parking lots, sharing equipment with the SSDS. The SVE system started operating in August 2007. In April 2015, a wireless telemetry hub and radio node were installed to monitor and manage the system remotely.

Monitoring of the SVE/SSDS system has followed the Phase IV RIP requirements, initially conducted monthly and then quarterly after telemetry was installed in July 2015. Operational parameters such as flow rate, vacuum, and off-gas treatment efficiency are monitored. Sub-slab vapor pressures are periodically measured to assess system effectiveness, and all blower connections are checked for leaks, which are promptly repaired if found. Carbon tank change-outs are scheduled using monitoring data to ensure regulatory compliance and optimal VOC removal. Procedures for handling potential spills during carbon change-outs are detailed in the OMM Plan. Off-gas treatment efficiency is monitored monthly, and results show emissions remained within permissible limits.

Through December 15, 2025, the operation of the SVE/SSDS system has removed approximately 9,522 lbs or 707 gallons of VOCs from the subsurface. The operation of the SVE/SSDS system has reduced the concentrations and mass of chlorinated VOCs in the vadose soil, which are likely to continue decreasing with ongoing operation of the system.

Details of system inspection and monitoring are provided in the semi-annual Phase V Status Reports and Remedial Monitoring Reports.

9.4. Capuano Center

GEI designed and installed a vapor mitigation system at the Capuano Center, an early education center. The design objectives of the mitigation system were to:

- Eliminate or mitigate, to the extent feasible, the potential soil vapor migration pathway to indoor air.
- Achieve a condition of NSR for occupants of the Capuano Center.

A SSDS, comprising 18 extraction points, was installed in six east wing classrooms at the Capuano Center. The interior slab/exterior wall joints are sealed with flexible epoxy, and the extraction points run horizontally through the exterior wall. The system, operational since February 1, 2007, connects extraction points to three exterior underground collection headers, each with dedicated discharge pipes and radon fans vented above the roofline. Remote telemetry is via two radio nodes and three pressure switches that alert a wireless hub of system shutdowns. The system does not use off-gas treatment since annual VOC emissions are well below regulatory thresholds, in compliance with MassDEP Policy No. WSC-94-150.

Monitoring of the SSDS system has followed the Phase IV RIP requirements, initially conducted monthly and then quarterly after telemetry was installed in July 2015. Quarterly assessments include system parameter checks at the headers (flow rate, vacuum, PID readings) and outdoor monitoring point PID readings. Details of system inspection and monitoring are provided in the semi-annual Phase V Status Reports and Remedial Monitoring Reports.

The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS influences the southern portion of the east wing. In conjunction with the physical sealing of the slab/wall joint, this indicates the soil vapor migration pathway to indoor air is controlled by the system.

9.5. Residential and Commercial Properties

GEI has evaluated the potential for a complete vapor intrusion pathway at 78 residences, mixed-use and commercial buildings at the Site. EPMMs were installed to the extent feasible (e.g., vapor barriers and venting systems, or SSDSs) to mitigate the vapor intrusion pathway and eliminate exposure to reduce chlorinated VOC concentrations in indoor air to that which constitutes a condition of NSR. Partial PSS (formerly referred to as RAO Statements) have been prepared for 50 properties within the Site at which there is a condition of NSR. The Partial PSSs have been provided to the individual property owners.

A list of residential, mixed-use and commercial properties and their current regulatory status is in Table 2-1 and shown on Fig. 9-1.

9.5.1. EPMM Installations

EPMMs have been installed at 24 residential and commercial properties (excluding 50 Tufts Street, the Capuano Center, and 60 Tufts Street). Currently EPMMs are relied upon to meet the remedial objectives at 22 properties and are not being relied on at 103 Washington Street and 163 Glen Street.

Fig. 9-2 shows the buildings with EPMMs installed. Table 9-1 provides the type (active or passive) of EPMM installed. EPMMs were also installed at 50 Tufts Street, 60 Tufts Street, and the Capuano Center.

9.5.2. Redeveloped Properties

A complete summary of all properties within the Site boundary is in Table 2-1. Properties which have been substantially redeveloped since the submittal of the Phase II CSA are discussed below. GEI reached out property owners who were redeveloping properties to assist them with installing a vapor mitigation system during construction. The vapor mitigation systems were installed as RAMs and GEI provided LSP services on behalf of the owners.

84 Franklin Street – An EPMM continues to be unnecessary at this residence. The property at 84 Franklin Street was an undeveloped lot. The property was developed with a new single-family residence between January 2019 and January 2020. During redevelopment, GEI was unable to contact the developer, and a vapor mitigation system was not installed. GEI established contact with the owner of 84 Franklin Street and collected indoor air samples in May 2025 and March 2026. The maximum concentration of PCE (0.902 µg/m^3), which is below the TVr, was detected on the second floor.

163 Glen Street –163 Glen Street, formerly an American Legion Post, was redeveloped into residential condominiums by the Somerville Community Corporation (SCC), between 2018 and 2021. During redevelopment, an EPMM consisting of a vapor barrier and sub-slab ventilation piping system was installed under the building slab. GEI conducted three rounds of indoor air sampling after the system's installation (April 2019, November 2019, and August 2020). In January 2021, a Partial PPS Statement with No Conditions was submitted, indicating that the mitigation system was not required to maintain a condition of NSR.

34 Knowlton Street – 34 Knowlton Street was the site of a residential-type garage that had been used for storage. The garage was demolished and a 2-unit residential condominium was developed on the property between December 2013 and June 2014. As part of the redevelopment, an EPMM consisting of a vapor barrier and sub-slab ventilation piping was installed. Effectiveness of the system has been monitored through indoor air and soil vapor sampling conducted initially in June 2014 and then in April 2015, February 2016, November 2016, March 2017, February 2025, and December 2025. An AUL was recorded in July 2014 to ensure ongoing maintenance of the vapor mitigation measures.

10 Morton Street –10 Morton Street is a multi-family residence currently being renovated. In 2009, to address a potential vapor intrusion pathway, an EPMM was installed that consisted of a new concrete floor, sealing the fieldstone foundation, vapor barrier system and sub-slab ventilation piping. During recent renovations, the basement floor was lowered by about one foot, requiring removal of the existing slab, piping, and vapor barrier. Construction avoided the water table, and a new sub-slab venting system, vapor barrier and concrete floor were installed. Post-renovation indoor air and soil vapor sampling have begun, but final construction work is ongoing.

5 Palmer Avenue – 5 Palmer Avenue was formerly a single-family home that was demolished in 2022. Due to denied access, no indoor air or soil vapor testing occurred prior to demolition. The City of Somerville acquired the parcel. The parcel along with Palmer Avenue were integrated into the Capuano School community garden.

31 Tufts Street- 31 Tufts Street, previously a parking lot owned by the American Legion (163 Glen Street) and acquired by the City of Somerville in 2014, was redeveloped into an affordable housing apartment building between July 2022 and June 2024. An EPMM consisting of a vapor barrier and sub-slab ventilation was installed during construction. GEI has conducted four rounds of sub slab soil vapor and indoor air sampling (October 2023, January 2024, November 2024, February 2025, and February 2026). We are continuing to conduct sub slab soil vapor and indoor air testing to evaluate if the EPMM is required and will likely prepare a Partial PPS with No Conditions once sampling is complete.

90-102 Washington Street –90-102 Washington Street (formerly known as 30-32 Cobble Hill Road) is a former strip mall commercial building; the building was demolished in 2020 and is now a vacant lot. The property is owned by the City of Somerville. Based on environmental investigations by EBI, McPhail, and GEI, a Partial PPS with No Conditions was submitted in March 2023.

103 Washington Street -- 103 Washington Street, previously an auto repair shop, was demolished in March 2019 and redeveloped as a mixed-use building with commercial space and open-air parking on the first floor and residential units above. A vapor mitigation system had been installed in the auto repair shop. Despite multiple outreach attempts with the developer, they chose not to install a new system but

allowed environmental testing after construction. Following completion and occupancy in February 2024, GEI performed several rounds of indoor air and sub-slab soil vapor testing (May 2023, July 2023, March 2024, December 2024, and February 2025). Based on the sampling results and a Method 3 Risk Characterization, a Partial PPS with No Conditions Statement was submitted in June 2025.

105 Washington Street –105 Washington Street, previously a multi-family house, was demolished in between March and June 2019 and redeveloped as a mixed-use building with commercial space and open-air parking on the first floor and residential units above. Despite multiple outreach attempts with the developer, they chose not to install a new system but allowed environmental testing following construction. Following completion and occupancy in February 2024, GEI performed several rounds of indoor air and sub-slab soil vapor testing (August 2021, February 2023, May 2023, December 2024, and February 2025). Based on the sampling results and a Method 3 Risk Characterization, a Partial PPS with No Conditions Statement was submitted in March 2026.

121 Washington Street – 121 Washington Street, previously a small commercial building, was demolished in October 2020 and is being redeveloped into a mixed-use building with commercial space on the ground floor and residential apartments above. An EPMM consisting of a vapor barrier and sub-slab ventilation was installed during construction. While the building envelope is complete, interior construction continues and it is not occupied. Soil vapor sampling was performed in December 2025, with indoor air sampling planned for 2026 once the building interior is finished and the retail space is sold. Additional sub-slab soil vapor and indoor air samples will be collected at that time.

60 Tufts Street – 60 Tufts Street is a 17-unit condominium building adjacent to the Property, equipped with SSDS for vapor mitigation. The SSDS, operational since 2009, includes 12 vertical sub slab extraction points and 2 horizontal foundation wall extraction points connected to two headers and a 5-horsepower blower with monitoring controls. The system discharges through the parking garage roofline and does not require off-gas treatment, as annual VOC emissions are well below thresholds established by MassDEP Policy No. WSC 25 150, revised July 28, 2025. Remote telemetry, consisting of one radio node and one pressure switch connected to the blower, for system monitoring was added in July 2015, enabling remote shutdown notifications.

9.5.3. Permanent Solution Statements

A condition of NSR has been demonstrated at individual properties based on adequate data collected to reflect temporal variability of contaminant levels in indoor air, sub-slab soil vapor and groundwater. These individual properties are eligible for a Partial PSS in accordance with the MCP (310 CMR 40.1000). The filing of a Partial PSS documents the achievement of regulatory closure under the MCP for that property.

The properties that have achieved a Partial PSS are in Table 2-1 and shown on Fig. 9-1.

9.6. Monitored Natural Attenuation

MNA was included in the RAA to achieve a Permanent Solution at the Site. The RAA selected in the Phase III RAP for the Site was based on Phase II evaluations, including the June 2008 report titled "Assessment of Source Stability, Plume Stability, and Plume Response Time," by Bernard H. Kueper, which was included in the Phase II/III Report. This 2008 evaluation indicated the overburden and bedrock

groundwater plumes were stable. The Phase II evaluations also indicated that natural attenuation processes were occurring at the Site and would likely reduce contaminant concentrations in groundwater over time.

Historically groundwater flows toward the east/southeast, although construction dewatering during the GLX project (2019-2020) temporarily shifted the plume southwesterly. After dewatering ended, the contaminant plume started to return to its original path, although not completely. The installation of new utilities under Washington Street has likely changed shallow overburden groundwater flow directions, prevented full restoration of the plume's previous configuration and established a new stable configuration.

9.6.1. MNA Program Objectives

MNA is part of the remedial strategy to reach a Permanent Solution for the Site. GEI has implemented an MNA program to confirm on-going natural attenuation is occurring at the Site. The MNA program is described in the MNA OMM Plan in the Phase IV RIP. The primary elements of the MNA program include:

- Plume Stability Monitoring: A groundwater sampling plan to monitor overburden and bedrock groundwater plume concentrations through time to confirm that the groundwater plumes are stable, and that groundwater concentrations of chlorinated VOCs are not significantly increasing.
- Natural Attenuation Evaluation: An evaluation of overburden and bedrock groundwater plume concentrations through time for indications of the presence and rate of natural attenuation processes.

9.6.2. MNA Activities

Since 2009, GEI has conducted MNA comprising:

- Groundwater Level Measurements: GEI measures groundwater levels at monitored wells to be used in plume stability and attenuation analyses
- Groundwater Sampling: GEI collects groundwater samples from overburden and bedrock monitoring wells to represent four key areas of the plume: upgradient, source zone area, core and perimeter.

  Groundwater samples are submitted for laboratory analysis of VOCs by EPA Method 8260B and natural attenuation parameters. The frequency and selected well samples are periodically reevaluated.
- Groundwater Plume Stability Analyses: GEI continuously updates and supplements the plume stability monitoring and natural attenuation evaluation, and presents the results in the semi-annual Phase V Status Reports.

A comprehensive evaluation of the effectiveness of MNA undertaken as part of this 2026 Phase II CSA Addendum, clearly demonstrates that natural attenuation is occurring according to expectations as discussed in Section 11. Multiple lines of evidence, including statistical analyses, visualizations, and geochemical assessments, were used to evaluate the natural attenuation at the Site consistent with EPA and ITRC guidance.

Key findings include:

- Plume Not Expanding (Plume Stability): Both statistical and visual evidence confirm that the geographic extent of the plume is not expanding, even considering localized effects from construction dewatering activities. The downgradient extent of the overburden (shallow) plume was originally delineated by wells where the concentration of PCE is less than the reporting limit (1 µg/L) and continues under current conditions. The extent of the disposal site was defined based on deeper groundwater concentrations in the till and bedrock. The boundary of the disposal site remains unchanged due to the natural attenuation of PCE as evidenced by the presence of degradation products (TCE, 1,2-DCE and vinyl chloride).
- Decreasing concentration trends at monitoring points, whose importance is emphasized by EPA guidance, are supported by statistical evidence, visualization analysis and trend graphs.
- Source Control: MNA at the Site demonstrates that natural attenuation and degradation are occurring at a rate that exceeds the rate of DNAPL dissolution and therefore the source is controlled. Within the plume a dynamic equilibrium has been achieved, in which contaminant mass entering the plume from DNAPL dissolution is offset by mass destruction and attenuation within the plume. In addition to MNA, long term decreases in contaminant concentrations in the source zone which are attributable to operation of a SVE/SSDS system since 2007 demonstrates additional source control.

10. Environmental Fate and Transport [310 CMR 40.0835(4)(e)]

10.1. Physical and Chemical Properties of Site Contaminants

Since 2008, GEI's understanding of the physical and chemical properties of site contaminants and the principal chlorinated VOCs remains unchanged. Groundwater transport and retardation mechanisms have generally remained unchanged except as discussed below. A detailed discussion on Environmental Fate and Transport is available in the 2008 Phase II CSA Report.

10.2. Principal Chlorinated VOCs

Chlorinated VOCs are the identified COPCs at the Site. PCE, TCE, and TCA are the principal chlorinated VOCs detected at elevated concentrations in soils, groundwater, soil vapor, and/or indoor air at the Site. Relatively low concentrations of other chlorinated VOCs were detected occasionally.

10.3. Updated Groundwater Transport and Retardation Mechanisms

10.3.1. Groundwater Flow

The direction of groundwater flow in the system across the central portion of the Site is generally toward the southeast/east– from the Property toward Franklin Avenue. Construction dewatering occurring within the hydrological low point during the GLX Project (2019-2020) temporarily shifted the plume trajectory southwesterly as shown on Fig. 8-12. However, once dewatering ended, the contaminant plume reverted to its original path, although not completely. The installation of new and refurbished utilities under Washington Street likely affected shallow groundwater flow, establishing a new stable configuration. The flow direction in other portions of the shallow overburden is also locally influenced by underground utilities.

Deeper groundwater movement occurs through the deep overburden and through fractures in the bedrock, and also flows towards the southeast/east.

10.3.2. Volatilization

The SVE System at the Property has facilitated accelerated volatilization by actively extracting soil vapor and enhancing the removal of VOCs from the subsurface. This process increases the partitioning of contaminants from groundwater to the vapor phase, thereby promoting a more rapid reduction in contaminant concentrations in areas with elevated VOC levels.

10.3.3. Degradation of Chlorinated VOCs

Chlorinated VOCs degrade via several mechanisms, including various forms of biodegradation, as well as abiotic transformation. Evidence of such degradation can be measured in several ways as part of a natural attenuation evaluation as discussed in Section 11. When evaluating data for evidence of

degradation, it is important to recognize that both decreasing and stable (non-increasing) trends, especially in the downgradient portion of a plume, are both strong lines of evidence for ongoing degradation. As the finite source mass is reduced, stable trends typically shift to decreasing trends. If the rate of degradation does not meet or exceed the rate of dissolution from the source, the plume would be expected to expand (nonetheless, natural attenuation processes can slow the rate of such expansion).

10.3.4. Surfactants

Based on the former use of the Property building as an industrial chemical and laundry supply warehouse, groundwater from selected monitoring wells in the Site vicinity were tested for the potential presence of surfactants. Surfactants are substances that, when dissolved in water, lower the surface tension of the water and increase the solubility of organic compounds. Surfactants (e.g., detergents) may affect the solubility, mobility and degradation of chlorinated VOCs.

Nonionic and ionic surfactants have been used to aid in the solubilization and subsequent removal of DNAPL from contaminated systems. Since ionic surfactants, such as linear alkyl benzene sulfonates, are found in industrial detergents, and may have been used on the Site, groundwater from selected monitoring wells was tested for the potential presence of surfactants. Surfactants, measured as linear alkyl benzene sulfonates, were detected only in one groundwater sample from MW107 in 2007, and in 4 samples from MW104 between 2011 and 2018. Surfactants were not detected above laboratory reporting limits in the sample from SHMW2 in 2019, upgradient of MW104. Based on groundwater contours, the absence of significant Site-related chlorinated VOCs in groundwater samples from MW107, and the apparently isolated detections in downgradient location MW104, the data indicates that mobilization of chlorinated solvents due to the presence of surfactants is not likely to be occurring in shallow and deep overburden.

10.4. Vapor Intrusion

10.4.1. Vapor Intrusion Transport Mechanism

Vapor intrusion is a confirmed exposure pathway at the Site. Chlorinated VOCs, including PCE, TCE, and TCA, have been measured in the indoor air in the building on the Property. In addition, chlorinated VOCs, particularly PCE, have been measured in residences, commercial buildings, and the Capuano Center downgradient and crossgradient of the source area located at the Property.

Where feasible, EPMMs have been installed to mitigate the vapor intrusion pathway to achieve a condition of NSR at the affected properties.

10.5. Utilities as Migration Pathways

The potential preferential pathways associated with underground utilities include migration of contaminant vapors, DNAPL, and/or contaminated groundwater into or along the underground utility conduits and structures. The primary utilities within the Site that are likely to be potential migration pathways include the storm drains and sanitary sewers. GEI evaluated underground utilities as potential contaminant migration pathways and exposure points as discussed in Sections 3.0 and 5.0. The number of underground utilities in Washington Street and the abutting sidewalks precludes the installation of

additional monitoring wells in the southern portion of the shallow overburden plume. It is likely that the quantity of underground utilities is influencing groundwater flow patterns locally. Groundwater concentrations in monitoring wells surrounding the intersection of Washington Street and Tufts Street indicate that the shallow chlorinated VOC plume has not expanded beyond the originally understood plume boundary to the south of Washington Street.

11. Natural Attenuation Evaluation

Natural attenuation is a collection of processes including "biodegradation, dispersion, dilution, sorption, volatilization, and chemical or biological stabilization, transformation, or destruction of contaminants" (EPA 1998). The MCP defines MNA as a "systematically designed and monitored Comprehensive Remedial Action that employs physical, chemical, and/or biological processes under favorable conditions to act without human intervention and primarily through degradation mechanisms to reduce the mass, toxicity, mobility, volume or concentration of contaminants in soil or groundwater, as described in publications by EPA, the Department and other sources that are generally accepted by professionals conducting response actions" (310 CMR 40.0006).

According to the EPA, the suitability of MNA should consider whether the contaminants are likely to be effectively addressed by natural attenuation processes, the stability of the groundwater plume and its potential for migration, and the potential for unacceptable risks to human health or environmental resources by the contamination (EPA 1999).

GEI has implemented an effective MNA program at the site since 2008. The objectives of the MNA program are clearly defined, with measurable performance criteria that are being achieved over time. Using a lines of evidence approach, GEI has demonstrated that through multiple attenuation mechanisms, VOCs in groundwater have been degrading and are expected to continue to degrade within a reasonable timeframe.

11.1. Objectives for Performance Monitoring of MNA

The EPA (EPA 1999) provides eight specific objectives of a monitoring program associated with an MNA remedy:

1. Demonstrate that natural attenuation is occurring according to expectations
2. Detect changes in environmental conditions (e.g., hydrogeologic, geochemical, microbiological, or other changes) that may reduce the efficacy of any of the natural attenuation processes
3. Identify any potentially toxic and/or mobile transformation products
4. Verify that the plume(s) is not expanding downgradient, laterally or vertically
5. Verify no unacceptable impact to downgradient receptors
6. Detect new releases of contaminants to the environment that could impact the effectiveness of the natural attenuation remedy
7. Demonstrate the efficacy of institutional controls that were put in place to protect potential receptors
8. Verify attainment of remedial objectives

The EPA then identifies three tiers of site-specific evidence (EPA 1999) to evaluate the effectiveness of MNA to meet Objectives 1 through 4 and 8:

1. Tier 1: Historical analytical data that demonstrates a clear and meaningful trend of decreasing mass and/or concentration.
2. Tier 2: Hydrogeologic and geochemical data that indirectly demonstrates the types of natural attenuation processes active at the site and the rate at which such processes will reduce concentrations to target cleanup goals.
3. Tier 3: Data from field or microcosm studies that directly demonstrates the occurrence of natural attenuation process(es) and their ability to degrade the COCs.

GEI implements an MNA performance monitoring program that specifically monitors:

- Plume Stability: Overburden and bedrock groundwater plume concentrations through time to document that the groundwater plume is stable or not expanding, and that overall groundwater concentrations of chlorinated VOCs are not increasing (in support of Tier 1 above).
- Natural Attenuation (NA) Indicators: Overburden and bedrock groundwater plume concentrations together with hydrogeologic and geochemical data through time to evaluate for indications of the presence and rate of natural attenuation processes (in support of Tier 2 above).
- Microbial Populations: presence and quantity of the variety of halorespiring bacteria and functional genes involved in reductive dechlorination and degradation via aerobic (co)metabolic pathways to document that the microorganisms necessary for biodegradation are present in sufficient quantities (in support of Tier 3 above).

This MNA program is part of the remedial strategy to reach a Permanent Solution for the Site, along with a SVE system at the source property and vapor intrusion mitigation systems within certain buildings within the Site (Section 9.0). The MCP does not specify a timeframe for reaching a Permanent Solution and achieving standards through MNA.,

11.2. Natural Attenuation Effectiveness Criteria

The degree to which site conditions satisfy the effectiveness criteria outlined below serves as evidence that MNA is achieving, or is anticipated to achieve, remedial objectives. To establish effectiveness, the performance monitoring program is conducted in accordance with the stated objectives, and the resulting data are assessed using the three tiers of site-specific evidence.

11.2.1. Plume Stability

The shallow overburden and deep groundwater plumes associated with Site are stable. Stability and non-expansion of a plume are primary criteria by which the success of an ongoing natural attenuation program is demonstrated (Objective 4). A stable and non-expanding plume indicates that the rate of degradation meets or exceeds the rate of dissolution from the finite source mass; otherwise, the plume would be expected to expand (nonetheless, natural attenuation processes can also slow the rate of such expansion).

MassDEP defines a stable plume as "one where the extent of groundwater contamination is not expanding and the contaminant concentrations within the plume are not increasing" (MassDEP 2024b). This is consistent with EPA's criteria for plume stability, which indicates that stability should be demonstrated by a combination of spatial and temporal evidence (concentrations not increasing over time, static or contracting plume boundaries) (EPA 1999).

The plume at the Site is delineated in all directions, as discussed further in Sections 2.9, 11, and 12.

Although recent changes in environmental conditions (Objective 2) due to construction dewatering and new utilities in Washington Street (Section 5) resulted in the plume shifting southwesterly, the plume has not expanded (Section 12.5). Historical and recent groundwater sampling consistently demonstrates that the extent of the shallow overburden plume remains confined to within Washington Street, without significant migration to the south side (Specifically, PCE was not detected above laboratory reporting limits during two sampling events in 2012 and 2014 in KE-114, KE-115, and KE-1116. PCE was also not detected in KE-117 in 2012 and was only detected in 2014 following over pumping to simulate construction dewatering.) Recent results from newly installed shallow wells by GEI (MW-405 and MW-406) and TRC on behalf of the MBTA (WSPH-MW-12 and WSPH-MW-13) on the south side of Washington Street further support this observation (TRC 2025). PCE groundwater concentrations in MW-405 (sampled 2025 and 2026), MW-406 (sampled 2025 and 2026), and WSPH-MW-12 (sampled 2022 and 2023) wells were at or below laboratory reporting limits. The concentration of PCE in WSPH-MW-13 was 1.2 µg/L (sampled 2022) and 3.1 µg/L (sampled 2023).

11.2.2. Degradation

Biodegradation of chlorinated compounds, such as PCE, TCE and TCA, is occurring in the plume. Together with plume stability (Section 11.2.1), degradation of chlorinated VOCs is the other primary criterion by which ongoing natural attenuation is demonstrated (Objective 1). Degradation can occur regardless of plume condition (i.e., whether it is contracting, stable or even expanding). Indicators of the degradation process include conversion of higher-chlorinated compounds to lower-chlorinated degradation products, as well as overall decreasing concentration trends within the core of a plume. Chlorinated VOCs present in groundwater at the Site, including primarily PCE, TCE, cis-DCE and vinyl chloride, can be degraded via a variety of biotic and abiotic processes. Evidence that dechlorination is occurring and that overall concentrations are trending downward is discussed in Section 11.4.

Measurable changes in geochemical conditions within the affected area are also indicators that degradation is occurring. Certain geochemical data are regularly collected during groundwater sampling at the Site, including ORP, dissolved oxygen and pH, as well as periodic laboratory analysis of select groundwater samples for nitrate, manganese, iron, sulfate and dissolved gases. Although the geochemical dataset is somewhat limited, these data help to demonstrate the types of natural attenuation processes that are likely acting on COCs in groundwater.

11.2.3. Source Control

It is expected that source control will be a fundamental component of any MNA remedy (EPA 1999) because it is critical for achieving stability and timely cleanup progress; without it, natural attenuation alone may not suffice. The practical implication in EPA's framework (EPA 1999) is that source reduction

(or control) is part of achieving a plume that contracts or attenuates rather than expands because continued source flux tends to sustain or enlarge plumes.

As discussed in Section 9.3, an SVE system operates at the Property to remove COCs from the subsurface at the source which supplements the source control demonstrated by MNA.

11.3. Lines of Evidence

Multiple lines of evidence have been used collectively to reach reasonable conclusions regarding the presence and influence of natural contaminant degradation processes in groundwater and the overall fate of the plume. These lines of evidence, in a combination of graphical, visual and statistical forms, support that natural attenuation is occurring based on the criteria for MNA and plume behavior (EPA, 1999), as identified in Section 11.1. The multiple lines of evidence, which are focused on documenting naturally occurring in situ biodegradation processes and fall within the three tiers identified in Section 11.1, include:

Tier 1	Depiction of VOC concentration trends, both temporally (trend graphs; Section 11.4) and spatially along the groundwater flow path (GWSDAT analysis [Section 11.5] and molar concentration analysis Section [11.6]) using historical groundwater data; Statistical methods of evaluating historical groundwater data sets to identify trends through Mann Kendall tests (Section 11.7) and linear regression analyses (Section 11.8).[12]
Tier 2	Assessment of groundwater geochemical data (Section 11.9).
Tier 3	Data measuring the presence and quantity of microbial populations for several locations within the plume (Section 11.10).

It is important to note that EPA advises that in determining whether a plume is stable or migrating, the uncertainty associated with defining the limits of contaminant plumes should be considered. EPA recognizes that a plume boundary is more realistically defined by a zone rather than a line. Fluctuations within this zone are likely to occur due to several factors (e.g., analytical, seasonal, spatial, etc.) which may or may not be indicative of a trend in plume migration. Therefore, site characterization activities and performance monitoring should focus on collecting data of sufficient quality to enable decisions to be made with a high level of confidence (EPA, 1999).

Any large data set will likely have some problematic monitoring wells that 1) are not meeting expectations, or 2) show an increase in concentrations, or 3) have so much variation in concentration over time that it is impossible to discern a trend. In such a case, comparing these data point(s) to the most contaminated wells will help put the data in context. If the final concentration in a problematic well is low with respect to the most contaminated monitoring wells at the site, then that particular data point, alone, does not put the site at risk for not attaining the final goal (EPA, 2011). In short, a single monitoring well in the core of the plume that is not consistent with data from neighboring wells does not negate conclusions regarding overall plume stability and migration. This concept has been incorporated into our MNA evaluation.

[12] These evaluations are based on chlorinated VOC concentration data collected from 2004 to present that meet applicability criteria for each evaluation.

The lines of evidence assessed as part of this MNA evaluation are:

- Degradation Trend Graphs
- Visualization Analysis
- Molar Concentration Flow Path Assessment
- Mann Kendall Test
- Linear Regression Analysis
- Evaluation of Geochemical Data
- Microbial Population Testing

11.4. Degradation Trend Graphs

To visually depict and evaluate chlorinated ethene and ethane concentration trends in groundwater, degradation trend graphs were generated for each well with more than two sampling events (one graph per well for PCE and its degradation products, and one for TCA and its degradation products). The complete set of degradation graphs are in Appendix G-1 and select graphs are highlighted below. If a sampling location is inferred to have been affected by remediation or construction activities, this is identified on its graph. For example, the startup of the 50 Tufts Street soil SVE system, the timespan of the GLX dewatering system, and completion of the stormwater vault construction associated with the MBTA project are each identified on the graphs for wells located within or near the limits of those activities.

Trend graphs were prepared for 44 monitoring wells included in the current and historical monitoring programs. The degradation graphs are in Appendix G-1. The wells have been categorized as source zone, core[13], perimeter or hydraulically upgradient wells:

- Source zone wells (seven): GEO1, GEO2, MW1, MW3, SHMW1, SHMW2/MW2R, and SHMW3
- Core wells (twenty-four): GEO3, GEO4, GEO5, GEO6, MW101, MW102, MW103, MW104, MW104R, MW109, MW110, MW111/MW111R, MW112A, MW116, MW122, MW201, MW202, MW203/MW203R, MW401D, MW401S, MW402, MW403, MW404, and MW407
- Perimeter wells (eighteen): MW106, MW107, MW108, MW113, MW117S, MW117D, MW117T, MW118D, MW118S, MW118T, MW119S, MW119T, MW120D, MW120S, MW121S, MW121D, MW301, and MW405
- Hydraulically upgradient well (four): MW105, MW114, MW115, MW406

11.4.1. Evidence of Degradation

Source Zone: Trend graphs in the source zone area for PCE (GEO-1, GEO-2, MW-3, SHMW1, SHMW2/MW2R, and SHMW3) show PCE and its degradation products. At GEO-1 and GEO-2, the concentrations of PCE, TCE and 1,2-DCE decreased significantly, particularly following the startup of the SVE system at 50 Tufts Street. The graph for GEO-1 shows a maximum concentration of PCE 48,500 ug/L in 2007 reduced to 12 ug/L in 2026 and degradation products (Fig. 11-1).

[13] Core wells are designated as downgradient wells within the plume, but outside the source zone area. Both core wells and source zone wells are located within the plume as a whole.

Source zone trend graphs depicting TCA and its degradation products were produced for two of the 50 monitoring wells (GEO-1 and MW1), both located within the source zone area. The graph for GEO-1 (Fig. 11-2) demonstrates the TCA degradation and presence of degradation products. In GEO-1, the concentration of TCA reduced from a maximum concentration of 42,500 µg/L in 2007 to less than laboratory reporting limits in 2018. There is rapid decline of TCA with the startup of the SVE system. Groundwater samples were only collected at MW-1 between 2002 and 2007 showing a decreasing trend with the limited data.

Plume Core: In the core, the trend graphs show PCE and its degradation products. The long-term pattern of degradation is illustrated at MW116 (Fig. 11-3), which is outside the influence of the Tufts Street SVE system. The concentration of PCE has been steadily decreasing from 1180 µg/L in 2007 to 130 µg/L in 2025. Concentrations of TCE increased as PCE decreased, peaking at 341 µg/L before decreasing along with the decreasing concentrations of PCE. 1,1-DCE and vinyl chloride showed a similar pattern. The trend graphs also demonstrate the effect of construction dewatering, such as in GEO-6, which was not sampled between 2007 (497 µg/L) and 2024, when significantly higher concentrations were measured (1900 µg/L in 2024 and sustaining through present).

Perimeter: The perimeter wells (MW106, MW113, MW118D, MW118T, MW119T, MW120D, MW121D) exhibit the PCE degradation products. A long-term pattern of degradation is apparent at the perimeter, as illustrated at MW121D where concentrations of PCE were reduced from 258 ug/L in 2007 to 9.9 ug/L in 2026 (Fig 11-4). The remaining graphs are for perimeter and upgradient wells (MW107, MW108, MW117S MW-117D, MW117T, MW118S, MW119S, MW120S, MW121S, MW105, MW114, MW115, MW301, and MW405) contain neither elevated concentrations of PCE nor its degradation products.

11.4.2. Degradation Trend Graph Summary

The degradation trend graphs provide a line of evidence indicating that natural attenuation of chlorinated VOCs is occurring in groundwater across all plume zones. In all the plume zones (source, core and perimeter) degradation products are present, with concentration trends for the parent compounds, PCE and TCA, decreasing throughout the VOC affected groundwater zone. Most of the degradation trend graphs show an overall decreasing or stable PCE trend.

Several of the degradation trend graphs that have large/long datasets also demonstrate the progression of degradation through depiction of decreasing PCE concentrations and corresponding increasing proportions of degradation product concentrations over time. A good example of this progression is displayed by the data for monitoring well MW121D.

11.5. Visualization Analysis

GWSDAT (Jones et al. 2023) is an open-source software tool designed to work with time series data including solute concentration and groundwater elevations and was used to visualize the changes in Site groundwater conditions over time.[14] The tool integrates statistical modeling, geospatial interpolation,

[14] GWSDAT has been featured in an EPA-sponsored webinar on CLU-IN (EPA's Contaminated Site Cleanup Information network), specifically on Plume Stability Analyses with GWSDAT, US EPA Region 9, 09/22/2021, and has been endorsed by the Interstate Technology & Regulatory Council (ITRC 2013).

and temporal trend analysis to interpolate the dissolved phase plume concentration and mass both spatially and temporally to provide a clear picture of contaminant plume behavior.

Using groundwater monitoring data (well coordinates, sampling dates, groundwater elevations, and solute concentrations), GWSDAT applies thin plate spline regression to create continuous plume maps and identify changes in plume mass, footprint, and concentration over time. It supports assessment of plume stability, natural attenuation, and remedy performance, aligning with EPA and ASTM guidance for plume trend evaluation.

GWSDAT is widely used in MNA programs and remediation performance assessments to evaluate overall plume stability, visualize trends at both the plume scale and well scale, and estimate overall plume mass/area. Outputs include (but are not limited to) spatial plots, time series plots, plume diagnostics, evaluation of trends and thresholds, and spatiotemporal predictions. The spatiotemporal plume maps and time series trend plots included in Appendix G-2 offer a transparent, scientifically robust approach to interpreting groundwater monitoring data.

Historical groundwater data collected between July 2002, and February 2026 was analyzed with GWSDAT to visualize and interpret the stability of the dissolved phase plume. Plume stability analysis was performed on the shallow (water table) monitoring wells that exhibit most COC detections. The stability of the dissolved phase plume was evaluated for PCE, TCE, and TCA.

GWSDAT spatiotemporal maps were exported at quarterly time slices and video animations were generated to visualize plume changes over time.[15,16] Videos (plume animations) of the spatiotemporal plume maps for each COC are provided in Appendix G-2.

Spatiotemporal snapshots of the shallow PCE plume in 2008, 2018, 2020, and 2026 are in Appendix G-2 Figs. 1 through 4, respectively. Spatiotemporal snapshots of the TCE plume in 2008, 2016, and 2026 are in Appendix G-2 Figs. 5 through 7, respectively. Spatiotemporal snapshots of the TCA plume in 2008, 2016, and 2026 are in Appendix G-2 Figs. 8 through 10, respectively. The spatiotemporal snapshot of the PCE plume in 2026 overlayed on the Site Plan is in Fig. 11-5. Spatiotemporal snapshot comparisons for PCE, TCE, and TCA in 2008 and 2026 are also shown on Figs. 11-6, 11-7, and 11-8.

11.5.1. Evidence of Source Control

The concentration of the PCE plume in the source zone has been steadily decreasing over time due to the operation of the SVE system at 50 Tufts Street since 2007, and ongoing natural attenuation.

[15] Two upgradient monitoring wells MW105 and MW114 were destroyed in 2013 and 2018, respectively, and were no longer sampled. At the time of their destruction, COC concentrations had been non-detect during every sampling event since 2006. For the purposes of spatiotemporal plume visualizations, it is assumed that COC concentrations in MW105 and MW114 remained non-detect in 2026. This assumption is supported by the nearby upgradient wells MW115/MW115R exhibiting non-detect concentrations from 2007 to 2025.

[16] KE-116 located on the south side of Washington Street was sampled in 2012 and 2014 and was subsequently destroyed. COC concentrations during both sampling events were non detect at the time. For the purposes of spatiotemporal plume visualizations, it is assumed that COC concentrations in KE-116 remained non detect in 2026. This assumption is supported by historical data from nearby well KE-115 exhibiting non-detect or very low concentrations of COCs in 2012-2014 and recent data from the newly-installed wells MW405 and MW406 on the south side of Washington Street where the concentration of PCE is equal to or less than 1 µg/L (Section 2.9.4).

The plume animations and the spatiotemporal snapshots show the concentration of PCE in the source zone north of and beneath the 50 Tufts Street building disassociated from the southern portion of the plume as the concentration decreased (Fig. 11-6 and Appendix G-2 Figs 1 through 4). By 2026, PCE in the source zone north of the 50 Tufts Street building is less than 50 µg/L, reduced from a maximum of 48,500 µg/L in 2007 (GEO-1), and less than 200 µg/L, reduced from a maximum of 1,420 µg/L in 2007 (GEO-2). There is also significant shrinkage of the plume and concentrations south and east of 50 Tufts Street. By 2026, PCE in the southern portion of the source zone is less than 6,000 µg/L reduced from a maximum of 24,100 µg/L in 2006 (GEO-4) and less than 6,000 µg/L reduced from a maximum of 15,500 µg/L in 2007 (MW203), indicating that the SVE system is likely affecting this area as well.

The TCE and TCA plumes exhibit overall lower concentrations than PCE and generally mirror the long-term decreasing and spatial trends described above. Like PCE, the animations and the spatiotemporal snapshots of the TCE and TCA plumes in 2008, 2016, and 2026 (Appendix G-2 Figs. 5 through 10) clearly indicate that the plume is responding to the SVE remediation and naturally attenuating in the source zone. TCE and TCA exhibited early and rapid degradation in the source zone after the SVE system was installed in 2007. For both COCs (Figs. 11-7 and 11-8), concentrations degraded significantly from a high of over 30,000 µg/L in 2007 to less than 20 µg/L from 2012 to the present.

11.5.2. Evidence of Degradation

Decreasing concentration trends demonstrate attenuation within the plume and supports plume stability. In addition to the plume scale spatiotemporal evaluation, GEI also evaluated plume stability by reviewing concentration trends in individual wells. The GWSDAT program calculates concentration trends in individual wells by two methods: Mann Kendall and an associated exponential growth/decay trend (shown as a linear trend on a semi log plot) and a well trend smoother using a nonparametric method called the local linear regression. Unlike the Mann Kendall/exponential method that evaluates the entire data interval (i.e., from beginning to end) for a monotonic trend, the well trend plot smoother evaluates the data for local trends over a limited time interval somewhat like a moving average.

The results of the GWSDAT time series plots including the well trend smoother analysis for PCE, TCE, and TCA are in Appendix G-2. Where sufficient data above the detection limit was available for analysis, the dissolved phase concentrations for all COCs are overall stable to decreasing across the Site. Time series plots for PCE in the select wells illustrate representative changes in specific areas of the plume:

- PCE time series plots for GEO-6 and SHMW-2/2R exhibit recent increasing trends, likely due to the influence of the GLX construction dewatering which shifted the plume center of mass southwesterly as described in Sections 2.9 and 5.3 (Appendix G-2 Figure 11).
- PCE time series plots for GEO-1 and GEO-2 exhibit long-term decreases and are generally representative of the plume trends in the northern source zone (Appendix G-2 Figure 12).
- PCE time series plots for MW122 and MW112A exhibit unique trends downgradient from the source zone (Appendix G-2 Figure 13). MW122 historically exhibited generally elevated and increasing concentrations until 2025 when the sampling methodology was changed from grab sampling to low-flow methodology (Section 8.3.32). Grab sampling can disturb the aquifer and result in high biased VOC concentrations due to turbidity (i.e., inclusion of soil-sorbed VOCs in the analysis), as such this historical data may not be representative of aquifer conditions.

Recent concentrations are much lower (consistent with nearby wells), show a strong decreasing trend, and are interpreted to be more representative of actual dissolved phase concentrations.

- PCE concentrations at MW112A increased between 2007-2011 but have since remained stable with some variability, fluctuating by about a factor of two; further, the most recent data suggest a decreasing trend may be emerging. This variability may reflect localized factors, such as differences in well construction, hydraulic connectivity, or geologic heterogeneity, which may result in persistently higher concentrations compared to other monitoring points despite evidence of natural attenuation across the Site (Section 8.3.3.3).

Spatiotemporal snapshot comparisons for PCE, TCE, and TCA in 2008 and 2026 are shown on Figs. 11-6, 11-7, and 11-8. Time series for all wells for all COCs are in Appendix G-2.

11.5.3. Evidence of Plume Stability

Both stable non-expanding and contracting plume conditions are indicators of natural attenuation. The extent of the shallow plume has shown contraction along the northeastern boundary, while the southern edge has contracted into Washington Street and towards Knowlton Street. The geographic extent of the plume (the perimeter) has remained stable and the disposal site boundary (based on a combination of shallow overburden groundwater and deep overburden/bedrock groundwater monitoring wells) remains unchanged, which is illustrated in the GWSDAT visualizations. The plume is delineated in all directions. The downgradient extent of the shallow overburden plume across Washington Street was delineated in 2012-2014 by the sampling results from monitoring wells KE-114, KE-115, and KE-116. Plume delineation south of Washington Street was confirmed by the wells installed and sampled by TRC in 2022 (WSPH-MW-12 [<1 µg/L] and WSPH-MW-13 [1.2 µg/L]) and 2023 (WSPH-MW-12 [<1 µg/L] and WSPH-MW-13 [3.1 µg/L]) and by the wells installed (2025) and sampled by GEI (MW405 and MW406) where PCE in groundwater was at or below laboratory reporting limits.

11.5.4. Visualization Analysis Summary

Based on a review of the spatiotemporal trends, the overall plume is decreasing in magnitude and lateral extent over time (Figs. 11-6, 11-7, and 11-8 and Appendix G-2) and the shallow plume has contracted. The visualizations provide one line of evidence of source zone reduction, decreasing concentration trends, and that the plume is not expanding. The overall plume extent has not expanded between 2007 and 2026. For each of the COCs evaluated (PCE, TCE, and TCA), the plume center of mass shifted southwesterly due to the GLX project construction dewatering in the late 2010s but did not expand beyond its historical footprint and did not extend significantly across Washington Street in the overburden. The overall plume magnitude has exhibited long-term decreasing trends despite the small southwesterly shift as depicted in the plume animations and spatiotemporal snapshots.

Dewatering actively moves groundwater and, consequently, influences the shape, size, and migration patterns of the plume. As illustrated by the PCE GWSDAT spatiotemporal mapping, beginning in 2020, the western portion of the plume under Tufts Street began to shift southwesterly as it was pulled towards Washington Street due to GLX construction dewatering between 2019 and 2020. The installation of new utilities under Washington Street likely influenced shallow groundwater flow, preventing full restoration of the plume's previous configuration and establishing a new stable

configuration. The plume shifted as groundwater was actively pumped, leading to variations in the concentrations measured at certain monitoring wells. The dewatering lead to higher concentration of COCs in groundwater wells, such as GEO-6 and SHMW2/2R. The observed plume shift is attributable to temporary construction dewatering and new utilities rather than natural plume instability. It did not result in a shift in the plume outside the historical extents nor an overall increase in plume concentrations.

This visualization analysis alone presents multiple lines of evidence that groundwater concentrations decreased rapidly in the source zone following the start-up of the SVE system (source control) and have exhibited plume-scale long-term decreasing trends over the almost twenty years due to natural attenuation processes. The plume shifted southwesterly in recent years due to temporary construction dewatering activities but did not expand beyond the historical footprint. Following the construction, the plume continues to shrink but remains shifted to the southwest. Ongoing source control and natural attenuation continue to degrade the plume.

11.6. Molar Concentration Flow Path Assessment

A molar concentration flow path assessment (MCFPA) is used to evaluate how much contaminant mass is moving through groundwater along a specific flow path. Instead of looking only at concentrations in individual wells, it examines the transport of contaminant mass (in moles) along the groundwater flow direction. It is useful to understand mass flux and plume attenuation. The process for MCFPA is to:

- Select a groundwater flow path
- Convert concentrations in groundwater (µg/L) to molar units (mol/L)
- Calculate the total molar concentration (TMC) which is the sum of primary and degradation products
- Plot molar concentrations vs. distance downgradient

The molar concentrations of PCE, TCE, cis-1,2-DCE, and vinyl chloride were plotted as a function of distance (relative to the source) along two groundwater flow paths using the most recent available data (February 2026). The flow paths are identified on Fig. 1 in Appendix G-3.

The two flow paths were chosen based on the general direction of groundwater flow in and around the Site. The eastern/southeastern flow path is the general direction of groundwater flow that has been historically observed. The southwestern flow path is the direction of groundwater being pulled further south due to the GLX project, as discussed in Section 5.

11.6.1. Evidence of Degradation

A plot of the molar concentrations vs. distance downgradient along the eastern/southeastern flow path is in shown on Fig. 11-9 and in Appendix G-3 Fig. 2. Generally, relative PCE concentrations along this flow path are elevated on the upgradient end of the path (i.e., locations in the source area represented by MW404), decrease where the two lobes of the plume are divided (MW103) as shown in the most recent GWSDAT model Appendix G-2, then increases inside the downgradient lobe (MW112A, MW116 and MW122), but decreases quickly to concentrations near or below laboratory detection limits further

downgradient (MW121S), such that downgradient edge of the plume is delineated somewhere under Washington Street. A similar trend can be observed in concentrations of TCE, cis-1,2-DCE and vinyl chloride, where their molar concentrations peak sequentially with distance downgradient, which is indicative of ongoing reductive dechlorination (i.e., higher chlorinated VOCs like PCE and TCE are degraded rapidly closer to the source, while lower chlorinated VOCs like cis-1,2-DCE and vinyl chloride are slower to degrade and therefore found at higher molar concentrations within the downgradient portion of the plume [Parsons, 2004]).

A plot of the molar concentrations vs. distance downgradient along the southwestern flow path is in the chart in Appendix G-3 Fig. 3. Because this flow path begins at the northern end of the Property where soil vapor extraction is being conducted on 50 Tufts Street, relative PCE concentrations are low to start, then elevated within the southern portion of the 50 Tufts Street source area, and then decrease sharply downgradient, such that the downgradient edge of the plume is fully delineated somewhere under Washington Street. A similar trend can be observed in concentrations of TCE and cis-1,2-DCE,[17] when compared to the eastern/southeastern flow path. As stated previously, this flow path moves along an artificial route caused by the GLX project (Section 5). Despite this, CVOC concentrations continue to degrade as expected along the (artificial) flow path.

11.6.2. Evidence of Plume Stability

The molar concentration plots along both flow paths (Appendix G-3 Figs. 2 and 3) demonstrate sequentially-peaking concentrations of PCE, TCE, cis-1,2-DCE, and vinyl chloride with distance downgradient, indicating that, even if the composition of the plume, with respect to relative fractions of PCE and degradation products within different areas of the plume, is changing (as is expected), the plume is not expanding. The near-zero molar concentrations of both PCE and degradation products in the downgradient perimeter wells also indicates that degradation rates are sufficient to naturally maintain a stable to shrinking zone of groundwater affected by VOCs.

11.6.3. Evidence of Source Control

PCE concentrations have decreased significantly within the source, particularly in the northern portion of the Property, as the result of the operation of the SVE system at 50 Tufts Street since 2007. The impact that SVE has had on source zone concentrations is clearly shown on the molar concentration plot for the southwestern flow path (Appendix G-3 Fig. 3).

11.6.4. Molar Flow Path Summary

The molar flow path evaluation indicates that each of the key site VOCs are degrading as expected along both evaluated flow paths, as they both show that the that molar concentrations of higher-chlorinated VOCs are highest nearest to the source, and the molar fractions of degradation products being higher in the downgradient areas of the plume, before being fully degraded by the time the perimeter wells are reached.

[17] Vinyl chloride was not detected in any wells within this flow path in 2026.

11.7. Mann-Kendall Test

After screening data for applicability, data from groundwater samples collected for analysis of VOCs at 20 monitoring wells from 2004 through February 2026 were used in the Mann-Kendall portion of the MNA evaluation. [18] This non-parametric statistical test was used to assess monotonic upward or downward trends in the concentrations of PCE (and, in some wells, certain other VOCs) in each of these 20 monitoring wells.

Mann-Kendall tests were performed on 20 monitoring wells. The tests were performed for PCE, TCE, and TCA over each sampling location dataset, where applicable. The Mann Kendall test data, including τ, p value, trend direction and inferred significance of the trend, are in Appendix G-4 Tables 1A and 1B. The wells have been categorized as source zone, core, perimeter or upgradient wells:

- Source zone wells (four): GEO-1, GEO-2, MW-3, and SH-MW3
- Core wells (five): MW104, MW112A, MW116, MW122 and MW202
- Perimeter wells (ten): MW117D, MW117T, MW118D, MW118S, MW118T, MW119S, MW119T, MW120D, MW120S, and MW121D
- Upgradient well (one): MW105.

11.7.1. Evidence of Degradation

Decreasing concentration trends demonstrate attenuation within the plume and support the finding of plume stability:

Source Zone: In the source zone wells, three of the four (GEO-1, GEO-2, MW-3, SH-MW3) Mann-Kendall tests run for PCE and TCE demonstrated a decreasing trend in concentration (GEO-1, GEO-2, and SH-MW3). [19,20] The Mann-Kendall test for MW-3 generated a zero τ value for TCE, indicating a stable trend[21] in the TCE dataset, while the PCE trend at this well was decreasing.[22] The test for SH-MW2/R demonstrated stable concentrations.

The only dataset that met the Mann-Kendall screening criteria for TCA was GEO-1, where the test demonstrated a decreasing trend.

Core Plume: In wells that are located within the plume limits, three of the five (MW104, MW112A, MW116, MW122, MW202) Mann-Kendall tests run for PCE and TCE demonstrated a decreasing trend in

[18] The screening criteria for inclusion of data in the Mann Kendall test and the methods employed to perform the analysis are in Appendix G.
[19] Decreasing trends were evaluated from the Mann Kendall test results if the test produced a negative τ value with statistical significance.
[20] If the trend direction for TCE was the same as that for PCE at a given location, the test was considered duplicative of the PCE test and therefore not presented with the results.
[21] Stable trends were evaluated from the Mann Kendall test results if the test produced a negative or positive τ value with statistical insignificance.
[22]Because the trend results for MW3 differed, the outcome of the TCE test for this location is included Appendix G-4 Table 2.

concentration (MW104, MW116, and MW202). Two of the 20 PCE Mann-Kendall tests demonstrated an increasing trend in these datasets (MW112A and MW122).

Perimeter: In the perimeter wells (ten downgradient/side gradient wells and one upgradient well), five of the 11 Mann-Kendall tests run for PCE and TCE demonstrated a decreasing trend in concentration (MW118D, MW118T, MW119T, MW120D, and MW121D [down and cross gradient perimeter wells]). Five tests associated with the remaining downgradient / side gradient wells demonstrated stable concentrations (MW117D, MW117T, MW118S, MW119S, and MW120S). For the upgradient perimeter well (MW105), the Mann-Kendall test demonstrated stable conditions.

11.7.2. Evidence of Plume Stability

The extent of the plume is not expanding. The lateral extent of the plume is defined by the concentration of COCs in the deep overburden and bedrock monitoring wells (MW117D, MW117T, MW118D, MW118T, MW119T, MW120D, and MW121D). Five of the ten Mann-Kendall tests run for the perimeter wells (MW118D, MW118T, MW119T, MW120D, and MW121D [down and cross gradient perimeter wells]) for PCE and TCE demonstrated a decreasing trend in concentration. Two of the tests (MW117D, MW117T) demonstrated stable concentrations because the concentration of PCE and TCE have historically been less than the laboratory reporting limit.

11.7.3. Mann-Kendall Summary

In summary, evaluation results indicate decreasing trends (13 wells) and those that suggest a stable trend (seven wells) are both strong lines of evidence that degradation is occurring. The Mann-Kendall results provide one line of evidence that indicates that natural attenuation of PCE is occurring in groundwater at most tested locations (19 of 21 total wells), with concentrations of PCE decreasing throughout the VOC affected groundwater zone.

Although not all tests indicated decreasing trends (i.e., two [MW112A and MW122] of the 21 total wells suggest increasing trends based on the Mann Kendall results), single well results that are not consistent with data from neighboring wells do not negate conclusions regarding overall plume stability and migration, as noted in Section 11.3.

With respect to the potentially increasing trend at MW112A, this trend is based on the overall dataset. More recent data collected after 2020 suggest that concentrations are now decreasing. Most other monitoring wells across the Site, including those around MW112A and between the source and MW112A, consistently show stable or decreasing PCE concentrations, supporting the conclusion that natural attenuation is occurring throughout most of the Site. This pattern strongly suggests that the potential increases in MW112A are not due to a new uncontrolled condition or DNAPL source, but rather that localized factors may result in natural variations in MW112A's results. Temporal fluctuations in concentrations are not necessarily evidence of lack or reversal of natural attenuation overall.

With respect to the potentially increasing PCE trend at MW-122; again, this is based on the overall dataset, but concentrations have significantly decreased in more recent data (2025 and 2026), which may be due to a difference in sampling methods (grab vs low-flow as discussed in Section 8.3.3.2). Further, the trend in MW122 was calculated as stable under the linear regression analysis (discussed in

Section 11.8). As noted in Section 8.3.3.2, GEI has collected two rounds of data from a new shallow and deep well pair (MW401S/D) near MW122 to assess representativeness and well performance to help validate the reliability of MW122's data and support the ongoing evaluation of groundwater plume stability. Data for both shallow wells are similar during these two events.

Overall, the findings of the Mann Kendall test provide a strong line of evidence that degradation is occurring Site-wide, with concentrations of PCE and its degradation products decreasing throughout the VOC affected groundwater zone.

11.8. Linear Regression Analysis

After screening data for applicability (Appendix G-5), data from groundwater samples collected for analysis of VOCs at 43 monitoring wells from 2004 through April 2026 were used in the linear regression analysis portion of the MNA evaluation. [23] This statistical test was used to find the best fit linear relationship to describe the correlation between time and concentration.

Linear regression analysis was conducted for PCE, total chlorinated ethenes (tCE) and total chlorinated ethanes (tCA). Specific to total chlorinated ethanes, because most wells exhibit a long record of low TCA concentrations, just the two wells that meet linear regression screening criteria that also exceed applicable Method 1 standards at least once are included (GEO-1 and MW-1).

MCP Method 1 Standards (310 CMR 40.0974) are used as screening values (SV) for PCE in this evaluation. The Method 1 GW-2 standard (20 µg/L) was used to screen shallow wells and Method 1 GW-3 standard (30,000 µg/L) was used to screen deep wells. For total chlorinated ethenes (tCE) and ethanes (tCA), SVs of 100 and 2,000 µg/L, respectively, were used for shallow wells, and 1,000 µg/L was used for total chlorinated ethenes (tCE) in deep wells[24], because no Method 1 standard exists for these chlorinated VOC sums. Wells with unknown screened intervals (i.e., MW-1 and MW-3) were conservatively assumed to be shallow.

Linear regression analysis was performed for 43 monitoring wells that are included in the current and historical monitoring programs. The linear regression output data are in Appendix G-5 Tables 1A and 1B and the input data and graphical degradation plots are also in Appendix G-5. The wells have been categorized as source zone, core, perimeter or upgradient wells:

- Source zone wells (seven): GEO-1, GEO-2, MW-1, MW-3, SH-MW1, SH-MW2/MW2R, and SH-MW3
- Core wells (seventeen): GEO-3, GEO-4, GEO-5, GEO-6, MW101, MW102, MW103, MW104, MW104R, MW109, MW111/MW-111R, MW112A, MW116, MW122, MW201, MW202, and MW203/MW203R

[23] The screening criteria for inclusion of data in the linear regression analysis and the methods employed to perform the analysis are in Appendix G.
[24] Total chlorinated ethanes (tCA) were not evaluated in any deep well using linear regression; as such, no SL was set for tCA in deep wells.

- Perimeter wells (sixteen): MW106, MW107, MW108, MW113, MW117S, MW117D, MW117T, MW118D, MW118S, MW118T, MW119S, MW119T, MW120D, MW120S, MW121S, and MW121D
- Upgradient wells (three): MW105, MW114, and MW115

11.8.1. Evidence of Degradation

Source Zone: In the source zone, decreasing concentrations trends are present in four of the seven wells for PCE and five for tCE; there is a stable trend for PCE in MW-1, but tCE is decreasing. SH-MW2 is stable, while SH-MW1 was calculated to have a potentially increasing trend based on available data – from 2002 through 2007. Attenuation half-lives for the decreasing PCE trends in the source zone wells range from 326 (MW-3) to 2,921 days (eight years; SH-MW3).

Two wells (GEO-1 and MW-1) met the criteria for inclusion (Appendix G-5) for tCA. Decreasing concentration trends are present in both wells, although the trend result for MW-1 is statistically non-significant, indicating a potential steady trend at individual chlorinate ethanes concentrations that are already below Method 1 standards. The attenuation half-life for the decreasing trend at GEO-1, which is already below standards, is 774 days.

Core Plume: In the core, decreasing concentration trends are present in 13 of the 17 wells for PCE and tCE. There is a stable trend for two wells (MW122 and GEO-5). There is a limited data set at GEO-5 and potentially unique conditions are present at MW122 (Section 8.3.3). Two wells, GEO-6 and MW112A have potentially increasing trends. Attenuation half-lives in the core wells for decreasing PCE trends range from 858 days (MW-111) to 6,598 days (18 years; GEO-4).

Perimeter: On the perimeter, decreasing concentration trends are present in five of the 16 wells for PCE and seven for tCE. The decreasing trends for PCE are in deep till or bedrock wells. There is a stable trend for PCE in 11 and for tCE in nine of the 16 wells. The 11 stable PCE trend wells, nine of which are shallow, have concentrations of PCE below the screening level and many of the wells' datasets have 75 percent or more results below laboratory reporting limits. Attenuation half-lives for PCE in the decreasing trend perimeter wells, which are already below standards, range from 1,386 days (4 years; MW121D) to 5,888 days (16 years; MW118D).

On the upgradient perimeter where PCE concentrations have never been above standards, decreasing PCE and tCE concentration trends are present for one (MW105) of the three upgradient wells, while a stable trend is present for the remaining two (MW114 and MW115/MW115R). The attenuation half-life for PCE in MW105, which is already below standards, is 2,401 days.[25]

11.8.2. Evidence of Plume Stability

The linear regression analysis shows stable or decreasing trends in both the shallow and deep perimeter wells, indicating that the extent of plume is not expanding in the shallow nor the deep aquifers. For the steady state wells, the concentrations of PCE were never above the screening level and most of these wells also had datasets over 75 percent or more below laboratory reporting limits. Both shallow

[25] MW105 is no longer present and has not been sampled since 2013.

overburden and deep overburden and bedrock perimeter wells (16 total) were evaluated by linear regression analysis (shallow wells MW106, MW107, MW108, MW113, MW117S, MW118S, MW119S, MW120S, and MW121S; and deep wells MW117D, MW117T, MW118D, MW118T, MW119T, MW120D, and MW121D). Linear Regression Summary

The linear regression analysis results indicate decreasing (23 wells for PCE and 26 for tCE) and steady (17 wells for PCE and 14 for tCE) trends among the total of 43 evaluated wells are both strong lines of evidence that degradation is occurring.

The linear regression analysis suggests that three of the 46 evaluated wells have increasing trends; however, single well results that are not consistent with data from neighboring wells do not negate conclusions regarding overall plume stability and migration, as noted in Section 11.3.

The results for one source area well (SH-MW1) and two additional core plume wells (GEO-6 and MW112A) suggest that PCE concentrations may be increasing. Because SH-MW1 was destroyed sometime shortly after 2007, the dataset is short and outdated (with data available for dates between 2002 and 2007). More recent data from wells near SH-MW1 (such as GEO-4 and MW109) suggest a decreasing concentration trend, currently.

GEO-6 has likely been affected by the construction dewatering as discussed in Section 5, which is the cause of the potentially increasing trend, rather than natural causes.

With respect to MW112A, the analysis showed a weakly-increasing trend for PCE and a non-significant increasing trend for total ethenes. Although MW112A has an increasing PCE concentration trend based on the overall dataset, as previously discussed, more recent data collected after 2020 suggest that concentrations are now decreasing. Temporary fluctuations in concentrations are not necessarily evidence of lack or reversal of natural attenuation overall.

Regardless of the three wells with potentially increasing trends, overall, the findings of the linear regression analysis provide another line of evidence that degradation is occurring Site-wide, with concentrations of PCE and its degradation products decreasing throughout the VOC affected groundwater zone.

11.9. Geochemical Assessment of Natural Attenuation

Biodegradation of organic compounds, whether natural or anthropogenic, brings about measurable changes in the chemistry of groundwater in the affected area. By measuring these changes, it is possible to document and quantitatively evaluate the relevance of natural attenuation at a site.

Geochemical parameters measured via laboratory analysis to support evaluation of natural attenuation include nitrate/nitrite, manganese, total and dissolved iron, sulfate, dissolved gasses (methane, ethene, ethane), chloride and alkalinity. Groundwater geochemical data from 11 wells are available, which provide additional information to help determine the extent to which biodegradation is occurring. Note that, of these 11 wells, GEO-2, MW104 and MW112A are the most useful because a relatively long dataset is available, with the most recent data being collected within the past few years. (The other wells have no more than two records of data, generally collected in the early 2000s.) In 2007, baseline

sampling for geochemical parameters was conducted in two wells MW108 and MW107. Natural attenuation indicator data collected from nine wells from within the disposal Site boundary (GEO-2, GEO-6, MW103, MW104, MW104R, MW106, MW110, MW112A, SHMW2, and SHMW3) were compared to the water quality in two wells (MW107 and MW108) used to estimate background conditions to assess changes/differences that indicate natural attenuation is occurring.

Additionally, geochemical parameters measured in the field include dissolved oxygen, ORP and alkalinity (as pH) are collected during groundwater sampling at nearly every well during each event and are useful in assessing whether conditions are conducive to natural attenuation.

Available geochemical data are in the table in Appendix G-6.

11.9.1. Dissolved Oxygen

Dissolved oxygen is present in an aerobic environment and not present/depleted in an anaerobic environment. It is the preferred electron acceptor in aerobic respiration, allowing for efficient microbial biodegradation, transferring electrons from organic compounds to oxygen. The availability of oxygen often dictates the rate of aerobic degradation, especially in subsurface environments.

Concentrations less than 0.5 mg/L generally indicate conditions suitable for anaerobic dechlorination, while concentrations over that amount are suitable for aerobic degradation (USEPA 1998). Adding oxygen (such as via a soil vapor extraction [SVE] system, which induces a vacuum that ultimately pulls atmospheric air into the subsurface, even without air sparge enhancement) can increase aerobic degradation rates by several orders of magnitude.

Conditions conducive of aerobic degradation exist primarily near the source, particularly in the northern half of the property, where the SVE system is operating. Specifically, dissolved oxygen concentrations greater than 5 mg/L (up to 10 mg/L) are frequently observed in most wells near and north of the 50 Tufts Street building. Concentrations in the subsurface are likely being replenished through operation of the SVE system and the presence of high levels of oxygen near 50 Tufts Street suggests that aerobic degradation controls CVOC concentration reductions in this vicinity.

Concentrations less than 0.5 mg/L are generally present in downgradient plume core wells. Decreasing dissolved oxygen concentrations and concentrations depleted below background are indicative that aerobic degradation is actively occurring.

11.9.2. Nitrate

Nitrate is an alternate electron acceptor for microbial respiration in the absence of oxygen. After dissolved oxygen has been depleted, nitrate is the first electron acceptor preferred by anaerobic microbes for anaerobic biodegradation. Reductive dechlorination with nitrate as the electron acceptor is most effective when nitrate levels in the plume are below 1.0 mg/L (USEPA 1998). Depleted levels of nitrate relative to background are an indicator that dechlorination is occurring.

Nitrate was not present in one background well (MW108) and detected at low concentration in the other (0.1 mg/L in MW107) during baseline sampling in 2007. Nitrate was present in MW104 at approximately

background concentrations until 2018, when it increased to 2.6 mg/L. Nitrate concentrations in MW104R are similar to the 2018 data for MW104. Nitrate was detected at concentrations much higher than background in GEO-2 and MW112A during baseline sampling in 2007 (7 mg/L and 4.7 mg/L, respectively) and decreased steadily and significantly from their starting points, remaining near or below 1 mg/L until recently (in 2022 at GEO-2), when concentrations increased to nearly baseline concentrations. The GEO-2 and MW112A data suggest that dechlorination via nitrate reduction was likely occurring at least through 2017.

11.9.3. Manganese

Manganese is an alternate electron acceptor in the absence of oxygen and nitrate. Manganese follows nitrate in order of electron acceptor preference by anaerobic microbes. An increase in manganese concentrations indicates that the groundwater environment is sufficiently reducing to sustain manganese reduction and for anaerobic dechlorination to occur (clu-in.org 2026).

Manganese is present in MW104 and MW112A, at relatively steady concentrations, suggesting that anaerobic dechlorination via manganese reduction may be occurring at these wells. Manganese is not present in MW104R and was not present in GEO-2 until recently.

11.9.4. Iron

Iron is an alternate electron acceptor in the absence of oxygen, nitrate, and manganese. Iron follows manganese in order of electron acceptor preference by anaerobic microbes. During the anaerobic degradation process, ferric iron (III) is reduced to ferrous iron (II), [26] which may be soluble in water. Ferrous iron (II; measured as dissolved iron) concentrations can thus be used as an indicator of anaerobic degradation. Elevated levels of ferrous iron (II), generally greater than 1 mg/L, indicates that the groundwater environment is sufficiently reducing to sustain iron reduction and for anaerobic dechlorination to occur (clu-in.org 2026).[27]

Dissolved iron (i.e., ferrous iron [II]) is sporadically present in MW104 in the 1 mg/L to 5 mg/L range, but has not been detected in GEO-2, MW104R or MW112A. Although limited iron data is available, at least in the vicinity of MW104, conditions appear to be conducive of iron-reducing degradation.

11.9.5. Sulfate

Sulfate is an alternate electron acceptor in the absence of oxygen, nitrate, manganese, and ferric iron. Sulfate is one of the last electron acceptors preferred by anaerobic microbes (followed only by carbon dioxide). This process is termed “sulfate reduction” and results in the production of sulfide. Depleted concentrations of sulfate relative to background suggest anaerobic dechlorination is occurring. Sulfate concentrations less than 20 mg/L are favorable for anaerobic dechlorination (clu-in.org 2026).

[26] Native organic matter may also support reduction of iron.
[27] Care must be taken when interpreting ferrous iron (II) concentrations because they may be biased low by reprecipitation as sulfides or carbonates.

Sulfate was detected in the 30 mg/L range in the background wells (MW107 and MW108) during baseline sampling in 2007. Sulfate was detected in the 100 mg/L range during early sampling (2007 – 2009), then steadily decreased and remained at levels near or below 20 mg/L from 2017 until 2025. Depleted concentrations of sulfate relative to background suggest anaerobic dechlorination via sulfate reduction was occurring here until at least 2025. Sulfate concentrations in MW104 are above 20 mg/L and have steadily increased since 2012. Concentrations in MW104R and MW112A are above 20 mg/L and relatively steady.

11.9.6. Dissolved Gasses

The production of methane in the groundwater indicates that fermentation is occurring and that the potential for complete anaerobic dechlorination exists. Elevated levels of methane (at least an order of magnitude greater than background and greater than 1.0 mg/L (clu-in.org 2026) suggest a highly anaerobic environment appropriate for anaerobic degradation. Elevated levels of ethene and ethane can also be used to infer anaerobic dechlorination but these can be subject to rapid biodegradation, so their absence does not necessarily mean biodegradation is not occurring.

Elevated methane concentrations are consistently present in MW104, as well as sporadic elevated concentrations of ethane and ethene. Methane is also sporadically present in GEO-2, MW104R, and MW112A. Although concentrations are not consistently measured in the ideal range, the presence of methane confirms that fermentation has been occurring.

11.9.7. Chloride

Chloride is produced through anaerobic dechlorination; as such, elevated levels of chloride above background are an indicator that dechlorination is occurring. Concentrations that are greater than three times background are a good indicator that dechlorination is occurring. (clu-in.org 2026)

Background concentrations of chloride were 100 mg/L to 235 mg/L in MW107 and MW108, respectively, during baseline sampling in 2007. In comparison to these background levels, sufficiently elevated chloride levels are consistently present in GEO-2 and MW112A (while MW104 and MW104R are similar to background).

11.9.8. Alkalinity

Alkalinity estimates the pH buffering capacity of the environment, a key component of the reductive dechlorination degradation process. Alkalinity is important in the maintenance of groundwater pH because it buffers the groundwater system against acids generated during both aerobic and anaerobic biodegradation. When combined with a groundwater pH at a suitable level for dehalogenating bacteria (typically near neutral to slightly basic), increasing alkalinity values above background indicate the buffering capacity of the aquifer is sufficient to neutralize metabolic acids produced by degradation of substrates (clu-in.org 2026).

Based on available data, these conditions exist in all sampled wells.

11.9.9. Oxidation-Reduction Potential

The ORP of groundwater is a measure of electron activity and is an indicator of the relative tendency of a solution to accept or transfer electrons. Oxidation-reduction reactions in groundwater containing organic compounds (natural or anthropogenic) are usually biologically mediated and, therefore, the ORP of a groundwater system depends upon and influences rates of biodegradation. Knowledge of the ORP of ground water also is important because some biological processes operate only within a prescribed range of ORP conditions (EPA 1998). Negative ORP is necessary for anaerobic degradation. Non-negative ORP, particularly in conjunction with elevated levels of DO and the absence of TOC/DOC, is an indicator that anaerobic degradation may not be occurring effectively (clu-in.org 2026).

Based on recent sampling (i.e., 2020s), negative ORP is observed in downgradient core wells, away from the SVE system that was installed on the 50 Tufts Street property. These include MW112A and MW116, as well as downgradient perimeter wells, including the MW117, MW118, MW120 and MW121 clusters.

11.9.10. Geochemical Assessment Summary

The available data demonstrate conditions favorable for aerobic and anaerobic degradation depending on location (i.e., aerobic in the vicinity of the SVE system and anaerobic elsewhere), and provide another line of evidence that natural attenuation of chlorinated VOCs is occurring. Because the overall geochemical conditions in the downgradient core of the plume are conducive to reductive dechlorination, abiotic degradation is expected to play a significant role, as it does in many chlorinated solvent plumes that are also degrading via biotic processes.

11.10. Microbial Population Testing

Anaerobic reductive dechlorination is carried out by several groups of bacteria, including methanogens, sulfate-reducing bacteria, and dechlorinating bacteria. The strains of bacteria that can reduce PCE and TCE to cis-DCE appear to be ubiquitous in the subsurface. Strains that can completely dechlorinate PCE to ethene by a single species have only been demonstrated in the laboratory for *Dehalococcoides ethenogenes*, which is a common, but not a ubiquitous strain of bacteria in the environment. However, studies show that mixtures of differing dechlorinating strains can achieve complete dechlorination without reliance on any one specific strain of bacteria (Parsons 2004).

The presence of *Dehalococcoides* and other appropriate microorganisms were measured in 2026 in five wells throughout the Site (MW104R, MW112A, MW116, MW122, and MW203R) to help determine the presence and relative population of degraders present at representative locations throughout the Site.

Results (included in table in Appendix G-6) indicate that microorganisms are present at all wells; further, the three downgradient core wells (MW112A, MW116 and MW122), which are outside the influence of the SVE system at 50 Tufts Street and the effects of the Washington Street dewatering, have moderate populations of the degraders, including those strains capable of complete TCE and vinyl chloride reductive dechlorination (tceA Reductase [TCE], BAV1 Vinyl Chloride Reductase [BVC], and Vinyl Chloride Reductase [VCR]). This is strong evidence that the downgradient plume is degrading via abiotic processes.

The microbial results for MW203R suggest that the SVE system is likely maintaining conditions more conducive of aerobic degradation. The microbial results from MW104R suggest that the dewatering may have disrupted the environment necessary for *Dehalococcoides* to thrive at least temporarily due to changes in physical, chemical, and hydraulic conditions within a localized portion of the aquifer.

11.11. Natural Attenuation Evaluation Summary

Multiple lines of evidence, including statistical analyses, visualizations, and geochemical and microbial assessments, were used to evaluate the natural attenuation at the Site consistent with EPA guidance. All three tiers of evidence, including historical analytical data, geochemical and hydrogeological data, and microbial data, were used to evaluate the effectiveness of MNA consistent with EPA objectives (Section 11.1) as summarized below:

Demonstrate that natural attenuation is occurring according to expectations

EPA guidance emphasizes the importance of demonstrating natural attenuation as a key objective of MNA evaluations. The reduction of mass, toxicity, mobility, volume, or concentration of contaminants in groundwater at the Site are supported by statistical evidence, visualization analysis and trend graphs. The Mann-Kendall test and linear regression analyses of historical groundwater data demonstrate decreasing or stable trends for the overwhelming majority of wells, providing strong evidence for ongoing effective degradation.[28] The GWSDAT model clearly shows that the core of the plume has been degrading. The degradation graphs also show that most wells are decreasing in PCE and TCE concentrations, while generating lower-chlorinated degradation products and eventually dechlorinating to ethene.

Detect changes in environmental conditions (e.g., hydrogeologic, geochemical, microbiological, or other changes) that may reduce the efficacy of any of the natural attenuation processes

Certain site-specific conditions, such as dewatering and installation of new utilities under Washington Street associated with the GLX project, may have created temporary disruptions within localized portions of the plume (e.g., near MW104 and GEO-6), but geochemical indicators support the overall conclusion that in-situ biodegradation is occurring throughout the affected groundwater zone. Specifically, while only limited geochemical data is available from select wells, these data generally demonstrate conditions conducive to biodegradation, including depleted nitrate and sulfate, elevated methane, negative ORP, and increased chloride and alkalinity, as well as presence of high concentrations of dissolved oxygen in the soil vapor extraction area (indicating potential aerobic degradation in that specific area).

Identify any potentially toxic and/or mobile transformation products

Vinyl chloride production is closely monitored and has been found to be degrading and is not detected, or remains low, in most monitored wells. At present, vinyl chloride is typically greater than its Method 1 GW-2 standard in just three shallow wells: MW112A, MW116, and MW122. Vinyl chloride has not been

[28] Consistent with USEPA guidance (USEPA 2011), while the Mann Kendall and linear regression analyses indicate that a few wells may have increasing trends that aren't explained by specific site conditions (primarily MW112A), an individual well in the core of the plume that is not consistent with data from neighboring wells does not negate conclusions regarding overall plume stability and migration.

detected in indoor air samples collected throughout the Site. In 2007, vinyl chloride was detected in sub-slab soil vapor twice, at a maximum concentration of 1.3 µg/m^3, substantially below the Residential Sub-Slab Soil Vapor Screening Value (19 µg/m^3). Although vinyl chloride is recognized as a potentially toxic transformation product of chlorinated solvent degradation, site-specific data indicate that vinyl chloride has not been detected at any significant frequency or concentration in soil gas or indoor air at the Site to pose a vapor intrusion risk.

Verify that the plume(s) is not expanding downgradient, laterally or vertically

Another key EPA MNA evaluation objective is to demonstrate that the plume is not expanding. Both statistical and visual evidence confirm that the plume is not expanding laterally or vertically, even considering localized effects from construction dewatering activities. The downgradient extent of the overburden (shallow) plume was originally delineated by wells where the concentration of PCE is less than the reporting limit, and this is maintained under current conditions. The extent of the shallow plume has shown contraction along the northeastern boundary, while the southern edge has contracted into Washington Street and towards Knowlton Street. The extent of the disposal site was defined based on deeper groundwater concentrations in the till and bedrock, which is also maintained under current conditions. The boundary of the disposal remains unchanged due to the natural attenuation of PCE and simultaneous generation of degradation products (TCE, 1,2-DCE and vinyl chloride). The GWSDAT spatiotemporal maps and trend plots clearly show this, visually confirming the reduction and contraction of PCE, TCE, and TCA plumes over time.

Verify no unacceptable impact to downgradient receptors

The plume boundary is well defined, limiting potential downgradient receptors. Over the past 20 years, an extensive vapor mitigation study has been conducted to identify potential impacts to downgradient properties and receptors at the Site. This effort included comprehensive soil vapor and indoor air testing of residences, commercial buildings, and the Capuano School. As a result, vapor mitigation systems, specifically EPMMs, were installed at the 50 Tufts Street property, the school, and affected residences, wherever feasible. During property redevelopment, GEI collaborates with owners to incorporate vapor mitigation systems during construction to prevent unacceptable risks. When EPMMs were installed, follow up testing demonstrated their effectiveness and a condition of NSR to the downgradient receptors.

Detect new releases of contaminants to the environment that could impact the effectiveness of the natural attenuation remedy

Site conditions are reviewed semi-annually as part of Phase V activities; no new releases have been identified that could impact the remedy.

Demonstrate the efficacy of institutional controls that were put in place to protect potential receptors

AULs have been recorded for a limited number of residential properties where the soil vapor migration pathway to indoor air has been confirmed, and an EPMM installed. In 2025 and 2026, GEI has also been conducting indoor air sampling at residences where an EPMM had been installed, and an AUL is not in place, to demonstrate its continued effectiveness (Section 6).

Verify attainment of remedial objectives

Remedial objectives set out for this site included mitigation of potential inhalation exposure to chlorinated VOCs in indoor air, removal of contaminant mass in the source zone with a combined SVE/SSDS system to accelerate attenuation of the downgradient plume, and monitored natural attenuation (plume stability and degradation monitoring (Section 9)).

To achieve these objectives, vapor mitigation systems were installed in multiple properties and a SVE/SSDS system has been operated at 50 Tufts Street since 2007. Together, these response actions have resulted in long-term decreases in contaminant concentrations, especially in the source zone.

With respect to MNA, the collective lines of evidence presented in this section, including statistical trends, spatial and temporal visualizations, and geochemical indicators, strongly demonstrate that natural attenuation is actively reducing contaminant concentrations and stabilizing the plume at the Site.

12. Contaminant Nature and Extent [310 CMR 40.0835(4)(e)(f)]

12.1. Nature of Contamination

The following contaminants have been detected in the soil, soil vapor, and/or groundwater at the Site:

- Chlorinated VOCs: chloroethane, chloroform, carbon tetrachloride, 1,1-DCA, 1,1-DCE, 1,2-DCA, trans-1,2-DCE, cis-1,2-DCE, TCA, 1,1,2-TCA, PCE, TCE, 1,1,2,2-Tetrachoroethane, and vinyl chloride.
- Aromatic VOCs: benzene, 2-butanone (methyl ethyl ketone (MEK)), naphthalene, 4-methyl-2-pentanone, toluene and MTBE.
- VPH: C_5-C_8 aliphatics.
- EPH: C_{19}-C_{36} aliphatics and C_{11}-C_{22} aromatics.

The COCs, identified in the Risk Characterization prepared for the 2008 Phase II CSA, are the chlorinated VOCs formerly stored at and delivered to and from the Property (PCE, TCE and TCA), together with their associated breakdown products (1,1-DCA, 1,1-DCE, cis-1,2-DCE, trans-1,2,-DCE, and vinyl chloride). Other compounds detected at the Site, including benzene, C_5-C_8 aliphatics, C_{19}-C_{36} aliphatics, C_{11}-C_{22} aromatics, 1,2-DCA, 1,1,2-TCA, 1,1,2,2-Tetrachoroethane, MTBE, naphthalene, and toluene, were not defined as COCs. In addition, 1,2-DCA, chloroform, chloroethane, and carbon tetrachloride were also eliminated as COCs for indoor air, in the Risk Characterization.

The locations of groundwater monitoring wells are shown in Fig. 7-1.

12.2. Source Characterization

12.2.1. Historical Evidence of Source Contamination

The highest concentrations of COCs have been measured in soil, soil vapor, and groundwater samples collected at the Property. COCs found in Site soil primarily consist of PCE, TCE and TCA in soil at the Property. The highest concentrations of PCE (1,800 mg/kg), TCE (4.4 mg/kg) and TCA (2.7 mg/kg) measured in soil were located beneath the Property building slab. Documentation submitted to MassDEP concerning the history of operations at the Property has confirmed that PCE, TCE, and TCA in liquid form were stored and handled at the Property for many years. Over a span of approximately 50 years, ending in 2002, the Property was used as an industrial and laundry chemical supply business. Delivery, storage, loading and unloading of PCE have been documented for much of that period. Likewise, pipe labels and other historical information indicate that TCE and TCA were delivered, stored, loaded, and unloaded on the northern portion of the Property. The source of PCE contamination is north, beneath and south of the building, the source of TCA contamination is limited to north of the building.

Chlorinated VOCs, particularly PCE, have been measured in soil, groundwater, soil vapor and indoor air at the Site. The highest concentrations of chlorinated solvents in shallow groundwater were measured in samples collected from a well at the northwestern-corner of the building in 2007 (GEO-1: 121,600 µg/L

[sum of PCE, TCE and TCA]) and in bedrock south of the building in 2025 (MW404: 47,700 µg/L [sum of PCE, TCE and TCA]). Based on concentrations in groundwater, the source of TCA is limited to the northern portion of the building. Prior to 2008, the groundwater concentrations in GEO-1 were approximately 40% PCE, 35% and 25% TCE.

The highest concentrations of chlorinated VOCs in soil were detected in samples collected from two borings advanced within the western side of the building footprint (SH-1 [PCE: 1,500 mg/kg] and SH-2 [PCE: 1,800 mg/kg]) on the western side of the building on the Property. These concentrations have likely decreased due to the operation of the SVE/SSDS System.

12.2.2. Extent of Residual DNAPL

Although not an uncontrolled source, the 2008 Phase II CSA concluded that based on converging lines of evidence, PCE, TCE, and TCA residual DNAPLs were present in overburden down to the top of bedrock (and possibly in bedrock) at the Site (Kueper (2008b)). The DNAPL was not present continuously throughout this volume of porous media but was rather situated in many discrete lenses and laminations of geologic material. DNAPL has not been visually observed or detected in the monitoring wells or in the groundwater or soil samples collected at the Site. Consequently, the majority of DNAPL exists as residual DNAPL, which is immobile due to capillary trapping forces. Given the relatively high density and low viscosity of PCE, TCE, and TCA along with the moderate hydraulic conductivity of the overburden deposits, it is concluded that any continuous distributions of DNAPL are no longer migrating and have been stabilized by capillary trapping forces (Kueper (2008(b)). Storage and handling of chlorinated VOCs at the Site ended in 2002. Consequently, there has been no potential for further release of OHM to the environment since the initial conclusions were made, and those findings continue to be relevant to the CSM.

The operation of the SVE/SSDS system at the Property since 2007 has accelerated the process of removing DNAPL from the unsaturated zone north of building and moderating residual DNAPL from contributing to contaminant migration into the overburden groundwater. Coupled with MNA, the concentrations of PCE, TCE and TCA north of the 50 Tufts Street building (GEO1) have been reduced to below the MCP Method 1 GW-2 standard (20 µg/L, 5 µg/L and 4,000 µg/L, respectively). PCE and TCE have been reduced to less than 10 µg/L north of the building and TCA has been reduced to less than laboratory reporting limits in most samples collected since 2018 indicating that PCE, TCE and TCA are no longer likely to be present as DNAPL in the overburden north of the building.

Overburden wells further south of the building are likely outside the influence of the SVE system and groundwater concentrations remain elevated, but is decreasing, as represented by SHMW2R, the groundwater concentration was 3,953 µg/L (sum of PCE, TCE, and TCA) in February 2026. The MNA evaluation in Section 11 indicates a decreasing concentration trend and evidence of degradation for SHMW2/SHMW2R.

Groundwater concentrations in MW404, a recently installed bedrock well screened between 72.5 and 82.5 feet deep and located south of the building, are as high as 47,700 µg/L (sum of PCE, TCE, and TCA) in November 2025 indicating the potential presence of DNAPL. However, the DNAPL does not extend at depth further south and downgradient on the Tufts Street property as indicated by the groundwater

concentration in MW403, a recently installed bedrock well screened between 80 and 90 feet deep, which was 1,540 µg/L (sum of PCE, TCE, and TCA) in February 2026.

The 2008 Phase II CSA concluded that it is likely that DNAPL was present west into the adjacent to the railway property and east of the Site beneath Tufts Street from a location south of MW101 to approximately the location of GEO-5, and that it extended eastward from the Site under and beyond Tufts Street. At that time, DNAPL likely did not extend as far south along Tufts Street as monitoring well GEO-6; however, more recent sampling of GEO-6 indicates concentrations of PCE as high as 2,558 µg/L in November 2025. This expansion of potential DNAPL is likely due to the construction dewatering in Washington Street during the GLX project (2019-2020) temporarily shifting the plume southwesterly as shown on by the GWSDAT visualization in Appendix G-2. Post dewatering groundwater monitoring has indicated that the plume has stabilized since the cessation of pumping as discussed in Sections 8 and 10.

Although PCE as DNAPL may persist south of the building on the Property and off site to the east and west, the DNAPLs are likely located primarily in the bedrock, no longer migrating, and have reached a stable configuration because of capillary trapping forces for most of the past twenty years. The stability of these DNAPL sources is supported by groundwater concentration data collected from monitoring wells within the area of DNAPL occurrence. The concentration of PCE in groundwater samples collected at a depth of more than 70 feet in MW404, the bedrock well immediately south of the building, in the most recent round of sampling (February 2026) was 26,000 ug/L, less than the GW-3 Standard (30,000 ug/L). The concentration of PCE quickly attenuates as indicated by the February 2026 sampling results (1,400 µg/L) in MW403 approximately 200 feet to the south. In monitoring wells at the perimeter of the disposal Site (e.g., MW118D, MW119T, 120D, and 121D), PCE is in single digit concentrations or below laboratory reporting limits. Construction dewatering (2019-2020) during the GLX project temporarily affected this stability, shifting the contaminant plume southwesterly. Post-dewatering groundwater monitoring has indicated that the plume has stabilized since the cessation of pumping. New utilities under Washington Street likely influenced shallow groundwater flow, preventing full restoration of the plume's previous configuration and establishing a new stable configuration.

12.2.3. DNAPL is Not an Uncontrolled Source

The presence of residual DNAPL does not invalidate MNA where degradation and attenuation rates meet or exceed dissolution rates, as demonstrated at this Site by long term plume stability, decreasing concentrations, and multiple independent lines of evidence. The effectiveness of MNA is not determined by the mere presence of DNAPL or by whether some dissolution is occurring, but by whether dissolved-phase contaminant mass is increasing, stable, or decreasing at the plume scale (EPA 1999).

Under EPA, the critical consideration is the balance between mass loading from the source and mass loss due to attenuation processes, not the mere existence of a DNAPL source. Where the rate of degradation, dispersion, and other attenuation processes equals or exceeds the rate of DNAPL dissolution, dissolved phase contaminant concentrations will remain stable or decrease with distance downgradient. In this condition, the groundwater plume reaches a dynamic equilibrium, in which contaminant mass entering the plume from DNAPL dissolution is offset by mass destruction and attenuation within the plume. As a result, the plume is stable or contracting rather than expanding (EPA, 1998).

EPA guidance explicitly recognizes that MNA is appropriate at sites where DNAPL remains present, provided that:

- DNAPL is stable and not migrating;
- Dissolved-phase concentrations are stable or decreasing;
- Degradation products are present consistent with known attenuation pathways; and
- The plume is not expanding or posing increasing risk to receptors.

All these conditions are satisfied at this Site. Long-term groundwater data demonstrate stable or decreasing concentration trends for the overwhelming majority of monitoring wells, plume boundaries remain unchanged from their historical extent, the shallow overburden plume is contracting and degradation products occur in spatial and temporal patterns consistent with active biodegradation. Accordingly, the continued presence of residual DNAPL—and any limited ongoing dissolution—does not invalidate MNA and does not indicate remedy failure.

This condition satisfies a fundamental objective of MNA: demonstration that the plume is not expanding laterally, vertically, or downgradient, and that contaminant mass, toxicity, mobility, and concentration are being reduced over time. Importantly, plume stability under these conditions indicates that DNAPL is not acting as an uncontrolled or growing source, even if dissolution is ongoing at a low, steady rate.

Accordingly, the continued presence of DNAPL dissolution does not contradict MNA when site data demonstrate that natural attenuation processes are sufficiently robust to control plume behavior and reduce overall contaminant mass. In such cases, MNA remains a valid and protective remedial approach, particularly when combined with source-area controls (e.g., SVE) that further reduce source strength and enhance long-term plume stability.

12.3. Extent of Chlorinated VOCs in Soil

Five chlorinated VOCs—1,1-DCA, cis-1,2-DCE, PCE, TCE, and TCA—were detected at concentrations above laboratory reporting limits in soil samples from the Property. PCE and TCE were found most frequently and at the highest concentrations. The spatial extent of VOCs in soil can be characterized by PCE measurements. The highest PCE concentrations were detected within the building footprint on the western side of the Property (up to 1,800 mg/kg), with lower concentrations found outside the building in the northern and southern portions of the Property. Above the water table, PCE levels ranged from 4.8 to 1,800 mg/kg; below the water table, they ranged from 0.16 to 1,500 mg/kg. Off-Property soil samples showed decreasing concentrations with distance, with PCE levels above the water table between 0.257 and 4.35 mg/kg, and below the water table between 0.111 and 3.15 mg/kg. Although samples have not been collected from within the building footprint since the start of operations, VOC concentrations are expected to have declined due to SSDS and SVE systems.

12.4. Extent of Chlorinated VOCs in Groundwater

Twelve chlorinated VOCs were detected above laboratory RLs in groundwater samples collected at the Site: chloroethane, chloroform, carbon tetrachloride, 1,1-DCA, 1,2-DCA, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, PCE, TCA, TCE, and vinyl chloride. Elevated levels of PCE, TCE, 1,1-DCA, and TCA are

present in more than half of the monitoring wells at the Site. PCE is the most dominant, and the extent of chlorinated VOCs in groundwater can be represented by PCE.

The primary COCs in groundwater are PCE, TCE and TCA. 1,2 DCA, carbon tetrachloride, chloroethane, and chloroform were eliminated as COCs in the 2008 Risk Characterization. The highest VOC concentrations in groundwater were on the 50 Tufts Street Property. Dissolved phase chlorinated VOCs have been measured in groundwater at the Property and downgradient in the overburden (fill, silt and till) and bedrock (argillite). The central portion of the groundwater plume is characterized by the presence of elevated concentrations of dissolved chlorinated VOCs, particularly PCE.

The results of chemical testing of groundwater samples are summarized in Table 7-5.

12.4.1. Shallow Overburden Groundwater

12.4.1.1. Extent of Shallow Overburden Plume

The shallow overburden groundwater is characterized by the presence of high concentrations of dissolved chlorinated VOCs and potential DNAPL. The approximate extent of the shallow overburden groundwater plume that corresponds to groundwater concentrations of PCE less than the laboratory reporting limit of 1.0 µg/l is shown on Figs. 1-2. The shallow overburden groundwater plume is bounded approximately by Alston Street, Cross Street, Dell Street, Glen Street, Oliver Street, Franklin Avenue to the east and Washington Street to the southeast.

Historically groundwater flows toward the east/southeast. Construction dewatering during the GLX project (2019-2020) temporarily shifted the plume southwesterly, drawing additional contaminated groundwater in Washington Street as shown by the GWSDAT model (Appendix G-2).

Following the cessation of dewatering activities, the contaminant plume began to revert toward its original configuration; however, this reversion was not complete. The presence of the new utility system installed in Washington Street likely altered the shallow groundwater flow, potentially impeding the full restoration of the plume to its pre-dewatering state. These utilities may be influencing the movement and distribution of groundwater in the area, resulting in a modified plume behavior that differs from historical patterns.

In 2014, Kleinfelder, on behalf of the MBTA collected groundwater samples within a portion of the GLX project area. PCE was measured in monitoring well KE-204 at 14,000 µg/L in 2014. This well was installed on the railroad right of way and only sampled once. Other wells sampled in 2014 along the right of way, KE-206 (12,000 µg/L) and KE-210 (14,000 µg/L), upgradient of KE-204, also had similar concentrations of PCE. These samples were all maintained in the GWSDAT model. Although the concentration of chlorinated VOCs along the right of way is high, the plume quickly dissipates to the west. The concentration of PCE in additional groundwater samples collected in 2014 approximately 70 to 90 feet west of these wells, (KE-205, KE-207, KE-209) had barely detectable PCE concentrations (≤2.5 µg/L), showing that the western boundary of the plume is narrower than previously estimated by GEI.

The shallow groundwater plume does not extend significantly south of Washington Street. This was confirmed by the wells installed and sampled by TRC in 2022 (WSPH MW 12 [<1 µg/L] and WSPH MW 13

[1.2 µg/L]) and 2023 (WSPH MW 12 [<1 µg/L] and WSPH MW 13 [3.1 µg/L]) and by the wells installed and sampled by GEI (MW405 and MW406) where PCE in groundwater was at or below laboratory reporting limits. This is consistent with historical groundwater sampling demonstrating that the extent of the shallow overburden plume remains confined to within Washington Street. The concentration of PCE groundwater samples collected from wells on the opposite side of Washington Street in 2012 and 2014 (KE 114 (<1.0 µg/L, 1.1 µg/L), KE 115 (<1.0 µg/L, <1.0 µg/L), KE 116 (<1.0 µg/L, <1.0 µg/L), KE 117 (<5 µg/L, 4.3 µg/L) and MW 5R (not sampled, <1.0 µg/L), and a sample collected from GLC WASH MW 4 (11 µg/L) in 2020, demonstrate that the plume had not migrated significantly across the street.

12.4.1.2. Extent of PCE GW-2 Plume

In addition to the disposal site boundary and shallow overburden plume (PCE <1 µg/L), GEI has depicted the extent of the PCE GW-2 plume on disposal site maps; in the 2008 Phase II CSA this was represented by the 50 µg/L concentration contour. Beginning in 2015, GEI included a 20 µg/L concentration contour based on MassDEP's intention to lower the GW-2 standard with the next MCP revision. The standard was revised in 2024.

The 20 µg/L isopleth was originally developed using the concentration of PCE groundwater samples collected from wells on the opposite side of Washington Street in 2012 and 2014 (KE-114 (<1.0 µg/L, 1.1 µg/L), KE-115 (<1.0 µg/L, <1.0 µg/L) , KE-116 (<1.0 µg/L, <1.0 µg/L), KE-117 (<5 µg/L, 4.3 µg/L) and MW-5R (not sampled, <1.0 µg/L), and a sample collected from GLC-WASH-MW-4 (11 µg/L) in 2020.

Based on additional groundwater samples collected south of Washington Street (MW405, MW406 WSPH-MW-12 and WSPH-MW-13) and the visualization provided by the GWSDAT model, we have updated the 20 µg/L concentration contour. The original estimated 2015 and updated 20 µg/L concentration contours are on Fig. 12-1.

A comparison of the two 20 µg/L PCE isopleths show that the northern and northeastern contours have migrated inward, while the southern edge has contracted into Washington Street and towards Knowlton Street. Not only is the shallow overburden plume not expanding, but it is contracting. This contraction indicates an overall reduction in the mass, toxicity, mobility, volume and concentration of contaminants within the shallow overburden footprint of the plume over time.

12.4.1.3. Omission of Washington Street Construction Data

These isopleths (20 µg/L), along with the previous (50 µg/L) Method 1 GW2 Standard are not invalidated by the elevated concentrations of PCE found in a localized section of Washington Street, because only low concentrations (below the GW2 standard), if any, are detected across Washington Street. Sampling data supports the conclusion that significant migration across Washington street is not occurring.

The extent of the shallow overburden groundwater plume was determined using static conditions in accordance with accepted industry practices. Groundwater samples, especially for VOCs, collected under pumping conditions are not representative of the static state of the aquifer. Dewatering or pumping condition samples are subject to biased analytical results and therefore should not be used quantitatively to support development of the CSM of a groundwater system.

The concentration of PCE in construction dewatering effluent is not representation of the static state of the aquifer. The concentration of PCE measured from the base of an open excavation (2,000 ug/L) under dewatering conditions within Washington Street in 2014 and construction dewatering treatment system influent (410 and 1,660 ug/L) between 2019 and 2020 (Sections 5) was not incorporated into the updated isopleths. The isopleths were developed on multiple years data collected from groundwater monitoring wells.

Concentrations measured in dewatering influent or other pumped construction water collected from Washington Street were not used along with monitoring well data to develop contaminant isopleths because such samples are inherently not representative of ambient groundwater conditions. Construction dewatering alters hydraulic gradients and groundwater flow directions, which can temporarily draw contaminated groundwater toward the pumping system from multiple directions and depths and increasing contaminant concentrations in the recovered water.

In addition, dewatering influent represents a composite of groundwater captured over a broad and hydraulically disturbed area, rather than groundwater from a discrete location and screened interval, as is the case for a monitoring well sample. As a result, concentrations measured in dewatering influent may reflect pumping-induced redistribution and mixing of contaminated groundwater rather than the in-place distribution of contaminants under static conditions. Any attempt to incorporate such data into the development of contaminant isopleths would improperly distort plume geometry, exaggerate the apparent extent and magnitude of impacts in Washington Street, and produce a misleading depiction of actual groundwater conditions.

The data collected from the concrete vault (WS-212) installed as part of the drainage system in Washington Street (Section 5) were not used in the development of the groundwater contaminant isopleths because the water samples from this vault are not representative of the current groundwater conditions along Washington Street. Several factors contribute to this. First, WS-212 is located in a known area of high VOC contamination, which means the concentrations measured there are not reflective of broader groundwater conditions. Second, design and construction errors resulted in uncertainty regarding the source of water sampled from the vault, making it unclear whether the water actually originated from along the drainage system in Washinton Street or from areas with higher concentrations adjacent to the vault. Third, after installation, the connection between the conveyance pipe and the chamber was closed, which would have prevented water from entering the chamber as designed. Lastly, the samples collected in 2021 followed construction dewatering activities that temporarily pulled the contaminant plume into Washington Street, artificially elevating contaminant concentrations compared to present-day conditions. As a result, these data are not suitable for developing accurate concentration isopleths for the site.

12.4.2. Deep Overburden and Bedrock Groundwater

The downgradient extent of the overburden (shallow) plume is defined by a concentration of PCE is less than the reporting limit. The lateral extent of the disposal site was defined based on deeper groundwater concentrations in the till and bedrock. The extent of the disposal site, along with the extent of the shallow plume is shown on Fig. 1-2. The boundary of the disposal site remains unchanged since being defined in 2008 due to the natural attenuation of PCE and simultaneous generation and complete

dechlorination of degradation products (TCE, 1,2 DCE and vinyl chloride). The GWSDAT spatiotemporal maps and trend plots clearly show this, visually confirming the reduction and contraction of PCE, TCE, and TCA plumes over time.

Chlorinated VOCs, particularly PCE, have been detected in the groundwater in the deep overburden and bedrock downgradient of the Property. PCE has migrated vertically downward through overburden to bedrock at the Site. In 2025, two bedrock monitoring wells were installed at the 50 Tufts Street property (MW403 and MW404) to assess the vertical extent of chlorinated VOCs in groundwater. During installation, soil was tested for the presence of DNAPL using an Oil-In-Soil™ Test Kit and the borings/ monitoring wells were gauged for the presence of DNAPL with an oil/water interface probe. DNAPL was not observed in either location in either the soil or groundwater. PCE was detected in both MW403, which is on the southern end of the property, and MW404 located closer to the south end of the 50 Tufts Street building. Concentrations of PCE in the bedrock at the 50 Tufts Street Property show a clear gradient with higher concentrations (26,000 µg/L in MW404 in February 2026) located near the original source area, and decreasing by an order of magnitude (1,400 µg/L in MW403 in February 2026) approximately 200 feet to the south. While it is likely that based on lines of evidence there is residual DNAPL in the bedrock near the former source area, the rapid rate of attenuation laterally indicates that the DNAPL is immobile. In monitoring well couplets and triplets located off the 50 Tufts Street Property and at the perimeter of the disposal Site (e.g., MW118S/T/D, 120D, and 121D), PCE is not detected in the shallow overburden wells of the couplet or triplet but is detected in the bedrock well. This vertical downward migration is most likely due to recharge (rainfall and snowmelt) into shallow overburden which creates vertical components of groundwater flow.

The lateral limits of the bedrock groundwater plume extend beyond the eastern boundary of the shallow overburden plume to monitoring well clusters MW117 and MW118. This is indicated by the very low concentrations of PCE in groundwater collected from the deep overburden and bedrock wells at these locations. Compared with the residual concentrations of PCE in the source area bedrock wells (MW403 and MW404), concentrations of PCE in these wells are significantly attenuated, and it is unlikely that the contamination extends much beyond where PCE has been measured. The extent of the deep overburden and bedrock plume is shown on Fig. 1-2.

12.5. Source and Plume Stability and Plume Response Time

Dr. Kueper assessed source stability, plume stability, and plume response time for the Site (Kueper 2008a). The evaluation in Section 11, updates Dr. Kueper's conclusion, based on almost twenty years of additional data.

12.5.1. Source and Plume Stability

The PCE, TCE, and TCA plumes generally extend to the east of the Site, consistent with known groundwater flow directions. Source and plume stability were evaluated by considering groundwater concentration versus time data for the available monitoring wells. The Mann-Kendall statistical trend test (at both the 80% and 90% confidence levels) was used to evaluate whether PCE, TCE, and TCA concentrations are stable (no trend), increasing, or decreasing in each individual monitoring well.

In 2008, based on the Mann-Kendall analysis, subsurface sources of PCE, TCE, and TCA at the Site are stable. The Mann-Kendall analysis indicated that eight of nine source zone monitoring wells exhibited either stable or decreasing PCE concentration trends; nine of nine source zone monitoring wells exhibited either stable or decreasing TCE concentration trends; and nine of nine source zone monitoring wells exhibited either stable or decreasing TCA concentration trends.

In 2008, based on the Mann-Kendall analysis, the PCE, TCE, and TCA plumes are stable across the network of monitoring wells in shallow overburden, deep overburden, and bedrock. Currently, as discussed in Section 11, multiple lines of evidence confirm that the geographic extent of the plume is not expanding, even considering localized effects from construction dewatering activities.

The downgradient extent of the overburden (shallow) plume was originally delineated by wells where the concentration of PCE is less than the reporting limit and continues under current conditions (Fig. 1-2).

The downgradient edge of the plume to the east/southeast was originally established by the concentration of PCE in deep overburden and bedrock (MW118D, MW119T, MW120D and MW121D) which has decreased since 2011 to single digit concentrations or below detection limits. The depiction of the geographic extent of the plume has not shown contraction because PCE degradation products (such as, cis-1,2- DCE, TCE and vinyl chloride) continue to be detected in these wells due to natural attenuation as discussed in Section 11:

- MW118D: The concentration of PCE has been reduced to 2.6 µg/L in 2026 from 50 µg/L in 2016. TCE was detected at a concentration of 7.9 µg/L. Cis 1-2 DCE and vinyl chloride were detected at a concentration of 2.9 µg/L and 1.1 µg/L, respectively, in 2026.
- MW119T: The concentration of PCE has been reduced to 28 µg/L in 2026 from 75 µg/L in 2011. TCE was detected at a concentration of 10 µg/L in 2026.
- MW120D: The concentration of PCE has been reduced to 11 µg/L in 2026 from 75 µg/L in 2011. TCE was detected at a concentration of 4.7 µg/L in 2026.
- MW121D: The concentration of PCE has been reduced to 9.9 µg/L in 2026 from 2,019 µg/L in 2011. TCE and vinyl chloride were detected at a concentration of 13 µg/L and 4.8 µg/L, respectively, in 2026.

The outer footprint of the plume has not changed primarily due to the continued presence of degradation products resulting from the natural attenuation and breakdown of PCE, the principal COC. Even when a parent compound, such as PCE, is reduced to very low concentrations or falls below detection limits, the detection of its degradation products—like TCE, cis-1,2-DCE, and vinyl chloride—means that some level of contamination remains within the affected area, but also clearly demonstrates that attenuation is occurring. As a result, the extent of the plume must still encompass any area where these degradation products are present, ensuring the full scope of residual contamination is accurately represented and monitored for regulatory and remedial purposes.

Reducing the depiction of the extent of the plume is not scientifically appropriate at present given that these very low concentrations of PCE and degradation products continue to be present. Likewise, not reducing the depiction of the extent of the plume is not evidence that natural attenuation is not occurring.

The extent of the disposal site was defined based on deeper groundwater concentrations in the till and bedrock. The boundary of the disposal remains unchanged due to the natural attenuation of PCE and the presence of degradation products (TCE, 1,2-DCE and vinyl chloride).

12.5.2. Plume Response Time

Plume response time relates to the tendency for chemical concentrations to persist once the source of the plume has been either removed or physically isolated from the plume. Plume response time is a function of both chemical properties, such as the organic carbon partition coefficient, and hydrogeologic properties, such as hydraulic conductivity, hydraulic gradient, fraction organic carbon, distribution of diffusive sinks, and geochemical conditions governing biodegradation. The plume response time is the time required for chemical concentrations to be reduced to target levels following removal or isolation of the source. In 2008, Dr. Kueper concluded on the basis of screening level calculations that plume response times in overburden are expected to be slow (more than one hundred years) because of the overall low to moderate hydraulic conductivity, the moderate degree of sorption, and the lack of aggressive biodegradation. Response of the PCE plume to source isolation and/or removal is expected to be slower than that for TCE and TCA because of the initially higher PCE concentrations within the interior of the off-Property plume and the higher retardation factor associated with PCE. Estimated half-lives were calculated as part of the linear regression analysis (Section 11.8) based on the currently-available dataset. Among the wells that have not yet reached concentrations below applicable standards, the longest calculated half-life for PCE is approximately 18 years (GEO-4), which is well within the estimated multi-decade timeframe estimated during in the 2008 Phase II CSA and Phase III RAP.

12.6. Extent of Chlorinated VOCs in Indoor Air

Ten chlorinated VOCs are analyzed for in indoor air samples:

- 1,1-DCA
- 1,1-DCE
- trans-1,2-DCE
- cis-1,2-DCE
- TCA
- 1,1,2,2-Tetrachloroethane
- 1,1,2-TCA
- PCE
- TCE
- Vinyl Chloride

The principal chlorinated VOC measured in indoor air is PCE.

The extent to which migration of COCs to indoor air constitutes a completed exposure pathway has been thoroughly evaluated. In multiple rounds of indoor air sampling, PCE has not been detected in properties located over the outer portions of the shallow groundwater plume. Likewise, PCE has not been detected in several residences located directly over areas where elevated concentrations of PCE exist in shallow groundwater. Overall, indoor air monitoring data show that the absence or presence of a completed exposure pathway is highly site-specific.

12.7. Extent of Chlorinated VOCs in Underground Utilities

The drainage system within the Site flows into collection system in Washington Street and discharges to the Millers River. Chlorinated VOCs have historically been detected in the stormwater drainage system at the Site which was reported to MassDEP as a Condition of SRM in 2008 and assigned RTN 3-28231 (the Storm Drain Site).

In 2020, GEI prepared and submitted a Revised PSS without Conditions and Revised Method 3 Risk Characterization for the Storm Drain Site. A Permanent Solution Statement was appropriate for the Site because a condition of NSR to human health, safety, public welfare, and the environment exists for all receptors with No Conditions, and no remedial actions were required. The revised PSS demonstrated that concentrations of PCE and other chlorinated VOCs in surface water in the Millers River were below the MSWQS.

The GLX project improvements to Washington Street drainage system including lining exists pipes and waterproofing new elements of the infrastructure likely reduced infiltration of contaminated groundwater into the underground utilities.

13. Conclusions

Based on the information contained in this 2026 Phase II CSA Addendum, GEI makes the following conclusions:

A. Chlorinated VOCs, particularly PCE, have been measured in soil, groundwater, soil vapor, and indoor air within portions of the Site. TCE and TCA have also been measured in soil, groundwater and soil vapor. PCE degradation products are also present in various Site media; however, these three chlorinated VOCs are the principal chlorinated VOCs at the Site.

B. The reduction of mass, toxicity, mobility, volume, or concentration of contaminants in groundwater at the Site are supported by multiple lines of evidence, including statistical evidence using both Mann-Kendall and linear regression approaches, plume maps using visualization analysis, and molar flow path and temporal trend graphs, as well as geochemical and microbial analytical data, which were all conducted using EPA and ITRC guidance on evaluating natural attenuation.

C. The chlorinated VOC plume is stable and is not expanding. Both statistical and visual evidence confirm that the plume is not expanding laterally or vertically, even considering localized effects from construction dewatering activities. The downgradient extent of the overburden (shallow) plume was originally delineated by wells where the concentration of PCE is less than the reporting limit, and this is maintained under current conditions. The extent of the shallow plume has shown contraction along the northeastern boundary, while the southern edge has contracted into Washington Street and towards Knowlton Street. The vertical extent of the disposal site was defined based on deeper groundwater concentrations in the till and bedrock, which is also maintained under current conditions.

D. The outer footprint of the plume and the disposal site boundary, defined in the deep overburden and bedrock, remain unchanged due to the natural attenuation of PCE and simultaneous generation of degradation products (TCE, 1,2-DCE and vinyl chloride). This means that some level of contamination remains within the affected area, but also clearly demonstrates that attenuation is occurring. As a result, the extent of the plume still encompasses any area where these degradation products are present, ensuring the full scope of residual contamination is accurately represented and monitored for regulatory and remedial purposes.

E. Statistical evidence, visualization analysis and trend graphs demonstrate decreasing concentration trends at the vast majority of monitoring points (groundwater wells).

F. Although not selected as a technology solely to eliminate or control a source, the SVE/SSDS system, operating at 50 Tufts Street since 2007, provides some source control based on long-term reductions in contaminant concentrations in the source zone.

G. The 2008 Phase II CSA concluded that based on converging lines of evidence, PCE, TCE, and TCA DNAPLs were present in overburden down to the top of bedrock (and possibly in bedrock). DNAPL is not migrating and has reached a stable configuration because of capillary trapping

forces. The presence of residual DNAPL does not invalidate the effectiveness of MNA because degradation and attenuation rates meet or exceed dissolution rates, as demonstrated at this Site by long term plume stability / contraction and decreasing / stable concentrations, as evidenced by multiple independent lines of evidence. The critical consideration is the balance between mass loading from the source and mass loss due to attenuation processes, not the mere existence of a DNAPL source. DNAPL dissolution is offset by mass reduction and attenuation within the plume resulting in a stable or contracting, rather than expanding, plume.

H. Chlorinated VOCs, particularly PCE, have historically been detected in Washington Street, the main utility corridor at the Site. In 2008, high concentrations were measured, prompting MassDEP to assign RTN 3-28231, which was subsequently closed with a Revised PSS without Conditions in 2020. Sampling results for construction dewatering influent (2019-2020) collected during the MBTA GLX project, indicate that while PCE contamination in groundwater was temporarily exacerbated by construction. (This data was misused by MassDEP in the NAFNON to opine that the extent of the PCE plume was underestimated.) Since the cessation of construction, the plume has since stabilized, reverting to its original path, although not completely. The installation of new utilities under Washington Street likely affected shallow groundwater flow, preventing full restoration of the plume's previous configuration and establishing a new stable configuration.

I. In addition to mapping the disposal site boundary and shallow overburden plume (PCE <1 µg/L), GEI has also consistently depicted the extent of the PCE GW-2 plume on disposal site maps; in the 2008 Phase II CSA this was represented by the 50 µg/L concentration contour. Beginning in 2015, GEI included a 20 µg/L concentration contour based on MassDEP's intent to lower the GW-2 standard with the next MCP revision. These isopleths (20 µg/L), along with the previous (50 µg/L) Method 1 GW-2 Standard are not invalidated by the elevated concentrations of PCE found in a localized section of Washington Street, because only low concentrations well below the Method 1 GW-2 Standards, if any, are detected across Washington Street. The use of sampling results for construction dewatering influent (2019 2020) and a drainage structure in Washington Street (WS-212), collected both during and after the MBTA GLX project, are not appropriate when estimating the isopleths because they do not represent static conditions.

J. GEI conducted two rounds of indoor air sampling during the heating season at residences where an EPMM had been installed (eight) and at which owners historically refused mitigation systems (three). (We were unable to obtain access at four residences where owners had refused mitigation systems.) At all the residences, the testing either confirmed that the EPMMs were still effective or remained unnecessary.

The comprehensive evaluation conducted in this 2026 Phase II CSA Addendum demonstrates that the Site's MNA program is effective, is consistent with EPA and ITRC guidance, and is meeting the Site's RAA objectives. Multiple lines of evidence, including visualizations, statistical analyses, and geochemical and microbial assessments, confirm that contaminant mass, toxicity, mobility, volume, and concentration have significantly decreased at the Site consistent with EPA (EPA 1999) and ITRC (ITRC 1999) guidance. These multiple lines of evidence clearly show stable or declining levels of chlorinated VOCs and that the groundwater plume is not expanding; in fact, the shallow overburden plume is contracting. Further,

geochemical and microbial data suggest favorable conditions for natural attenuation exits within the plume. The potential presence of residual DNAPL does not invalidate MNA, as degradation and attenuation rates meet or exceed dissolution rates, resulting in plume stability and reduction. This also demonstrates that the source is controlled. Furthermore, EPMMs installed at residential and commercial properties have been demonstrated to be unnecessary, or if installed, remain effective, ensuring continued protection. Overall, the Site's remedial approach has not only satisfied but exceeded expectations, providing robust evidence that ROS is an appropriate MCP compliance point for the Site.

14. References

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Table 9-1 EPMM Status

Table 2-1. Property Status Summary
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Address	Street	Building Description	Property Status	Date	Risk Assessment	Comment
2	Alston Street	Multi-family	Class B-1 Partial RAO	February 2012	Method 1	
6	Alston Street	Multi-family	Class B-1 Partial RAO	February 2012	Method 1	
10	Alston Street	Garage	Class B-1 Partial RAO	March 2012	Method 1	
12	Alston Street	Multi-family	Class B-1 Partial RAO	April 2012	Method 1	
16-20	Alston Street	Multi-family	Class B-1 Partial RAO	April 2012	Method 1	
30-40	Alston Street	Commercial	Class B-1 Partial RAO	December 2012	Method 1	
142-146	Cross Street	Commercial	Class B-1 Partial RAO	July 2012	Method 1	
9	Franklin Avenue	Single-family	Class B-1 Partial RAO	June 2011	Method 1	
10	Franklin Avenue	Single-family	Class B-1 Partial RAO	August 2010	Method 1	
12	Franklin Avenue	Multi-family	Class B-1 Partial RAO	November 2010	Method 1	
13-15	Franklin Avenue	Single-family	Class B-1 Partial RAO	June 2011	Method 1	
18	Franklin Avenue	Single-family	Class B-1 Partial RAO	November 2010	Method 1	
19-21-23	Franklin Avenue	Multi-family	Class B-1 Partial RAO	June 2011	Method 1	
20	Franklin Avenue	Single-family	Class B-1 Partial RAO	December 2012	Method 1	
22	Franklin Avenue	Single-family	Class B-1 Partial RAO	January 2013	Method 1	
26	Franklin Avenue	Multi-family	Class B-1 Partial RAO	January 2013	Method 1	
27	Franklin Avenue	Single-family	Class B-1 Partial RAO	January 2013	Method 1	
29	Franklin Avenue	Single-family	Class B-1 Partial RAO	January 2013	Method 1	
31	Franklin Avenue	Multi-family	Class B-1 Partial RAO	April 2016	Method 1	
32	Franklin Avenue	Multi-family	Class B-1 Partial RAO	July 2013	Method 1	
34	Franklin Avenue	Multi-family	Class B-1 Partial RAO	March 2014	Method 1	
38	Franklin Avenue	Vacant Lot	Class B-1 Partial RAO	June 2011	Method 1	
0	Franklin Street	Parking Lot	PSS	September 2017	Method 1	Associated with 85 Washington Street
65	Franklin Street	Multi-family	Class B-1 Partial RAO	June 2014	Method 1	
66-66a	Franklin Street	Multi-family	Class B-1 Partial RAO	October 2013	Method 1	
74	Franklin Street	Multi-family	Class B-1 Partial RAO	January 2017	Method 1	
76	Franklin Street	Single-family	Class B-1 Partial RAO	May 2019	Method 2	
80	Franklin Street	Multi-family	Class B-1 Partial RAO	September 2016	Method 2	
82	Franklin Street	Single-family	Class B-1 Partial RAO	January 2017	Method 2	
84	Franklin Street	Single-family	--	--	--	Former vacant lot; redeveloped with single family house
86	Franklin Street	Multi-family	Class B-1 Partial RAO	October 2017	Method 2	
91-93	Franklin Street	Multi-family	AUL	August 2011	NA	EPMM (Passive)
95	Franklin Street	Single-family	--	--	--	EPMM (Active)
97	Franklin Street	Single-family	--	--	--	
99	Franklin Street	Multi-family	--	--	--	
95R	Franklin Street	Single-family	AUL	November 2009	NA	EPMM (Passive)
			Class A-3 Partial RAO	April 2010	Method 3	
97R	Franklin Street	Single-family	--	--	--	
150	Glen Street	Capuano School				EPMM (Active)
152-154	Glen Street	Multi-family	PSS	December 2023	Method 1	
153-155	Glen Street	Multi-family	--	--	--	
156	Glen Street	Multi-family	--	--	--	
159	Glen Street	Single-family	--	--	--	
162-164	Glen Street	Multi-family	--	--	--	
163	Glen Street	Commercial	PSS	January 2021	Method 3	Former VFW Post; redeveloped into a condominium building
166-168	Glen Street	Multi-family	AUL	February 2011	NA	EPMM (Passive)
2	Hadley Court	Multi-family	--	--	--	
9	Knowlton Street	Multi-family	AUL	October 2010	NA	EPMM (Active)
12-14	Knowlton Street	Multi-family	--	--	--	
13	Knowlton Street	Multi-family	AUL	August 2011	NA	EPMM (Active)
17	Knowlton Street	Multi-family	AUL	March 2010	NA	EPMM (Passive)
19	Knowlton Street	Multi-family	--	--	--	
23	Knowlton Street	Multi-family	--	--	--	
27	Knowlton Street	Multi-family	--	--	--	
29	Knowlton Street	Multi-family	--	--	--	
31-33	Knowlton Street	Multi-family	--	--	--	EPMM (Active)
32	Knowlton Street	Multi-family	AUL	April 2010	NA	EPMM (Passive)
34	Knowlton Street	Multi-family	AUL	August 2014	NA	
						EPMM (Passive) Former vacant lot; redeveloped with multi-family house
35-37	Knowlton Street	Multi-family	--	--	--	EPMM (Active)
67	Knowlton Street	Single-family	Class B-1 Partial RAO	March 2014	Method 1	

Table 2-1. Property Status Summary
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Address	Street	Building Description	Property Status	Date	Risk Assessment	Comment
69	Knowlton Street	Single-family	Class B-1 Partial RAO	March 2014	Method 1	
71	Knowlton Street	Single-family	Class B-1 Partial RAO	March 2014	Method 1	
4	Morton Street	Multi-family	--	--	--	EPMM (Passive)
6-8	Morton Street	Multi-family	--	--	--	
7	Morton Street	Multi-family	--	--	--	
10	Morton Street	Single-family	AUL	January 2010	NA	EPMM (Passive)
11	Morton Street	Multi-family	AUL	April 2010	NA	EPMM (Passive)
12	Morton Street	Multi-family	AUL	November 2009	NA	EPMM (Passive)
			Class A-3 Partial RAO	October 2011	Method 3	
13	Morton Street	Multi-family	--	--	--	EPMM (Active)
15	Morton Street	Multi-family	--	--	--	
18	Morton Street	Multi-family	--	--	--	EPMM (Active)
19-19A	Morton Street	Multi-family	AUL	December 2009	NA	EPMM (Passive)
21	Morton Street	Multi-family	--	--	--	
5	Palmer Avenue	Capuano School	--	--	--	Former single family home; demolished and Lot 43, part of expanded community garden
6	Reed Court	Multi-family	Class B-1 Partial RAO	June 2016	Method 1	
9	Tufts Street	Multi-family	--	--	--	
11-13	Tufts Street	Multi-family	--	--	--	
17	Tufts Street	Multi-family	--	--	--	
19	Tufts Street	Multi-family	--	--	--	
23	Tufts Street	Multi-family	--	--	--	EPMM (Active)
25	Tufts Street	Multi-family	--	--	--	
27	Tufts Street	Multi-family	--	--	--	EPMM (Active)
31	Tufts Street	Multi-family	--	--	--	Former parking lot; redeveloped into multi-family affordable housing building. EPMM (Passive)
45-47	Tufts Street	Multi-family	--	--	--	
49	Tufts Street	Single-family	--	--	--	
50	Tufts Street	Commercial	--	--	--	EPMM (Active)
51-51a	Tufts Street	Multi-family	Class B-1 Partial RAO	November 2017	Method 1	
53	Tufts Street	Multi-family		January 2018	Method 1	
60	Tufts Street	Multi-family	--	--	--	EPMM (Active)
51-51a	Tufts Street	Multi-family	Class B-1 Partial RAO			
0	Washington Avenue	Vacant Lots	--	--	--	Lots 68 & 71
75	Washington Street	Commercial	Class B-1 Partial RAO	June 2014	Method 1	
79	Washington Street	Single-family	Class B-1 Partial RAO	June 2014	Method 1	
81-83	Washington Street	Multi-family	Class B-1 Partial RAO	November 2013	Method 1	
84	Washington Street	Commercial	Class B-1 Partial RAO	June 2016	Method 1	Lot 2
85	Washington Street	Commercial	Class B-1 Partial RAO	December 2017	Method 2	
90-102	Washington Street	Vacant Lot	PSS	March 2023	Method 1	Former strip mall building; demolished and now vacant lot
91	Washington Street	Commercial	--	--	--	
97	Washington Street	Commercial	--	--	--	
103	Washington Street	Mixed-Use	PSS	June 2025	Method 3	Former auto repair shop; AEPMM removed during demolition; redeveloped into a mixed-use apartment building
105	Washington Street	Mixed-Use	PSS	March 2026	Method 3	Former multi-family house; redeveloped into a mixed-use apartment building
111	Washington Street	Multi-family	--	--	--	
113	Washington Street	Commercial	--	--	--	
117	Washington Street	Multi-family	--	--	--	
120	Washington Street	Commercial	--	--	--	
121	Washington Street	Mixed-Use	--	--	--	Former small commercial building; redeveloped into a mixed-use apartment building. EPMM (Passive)
137	Washington Street	Commercial	Class B-1 Partial RAO	June 2012	Method 1	

Notes
1. RAO= Response Action Outcome
2. PSNC = Permanent Solution with No Condition
3. AUL = Activity and Use Limitation
4. EPMM (Active) = Exposure Pathway Mitigation Measure with active venting
5.EPMM (Passive) = Exposure Pathway Mitigation Measure with passive venting
6. Properties closed prior to the April 25, 2014 MCP updates reports were titled Response Action Outcome (RAO) and properties closed after the promulgation of the 2014 updates reports titled Partial Permanent Solution Statement
7. The EPMM installed as part of redevelopment of 163 Glen Street, was demonstrated to no longer be required as documented in the PSNC

Table 2-2. 2025 and 2026 Subsurface Investigation
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Investigation	ID	Purpose
Boring advancement and monitoring well installation	MW401S	Delineation of elevated concentrations of PCE and TCE at MW122
	MW401D and MW402	Bedrock groundwater investigation off-Property (downgradient of source area)
	MW403 and MW404	Bedrock groundwater investigation on the Property (source area)
	MW405 and MW406	Delineate plume south of Washington Street
Soil Sampling	MW403 and MW404	Source area soil sampling for VOCs
Groundwater Sampling	42 wells	Quarterly sampling of 42 wells to monitor seasonal variability and support MNA analysis

General Notes:

1. NAFNON = Notice of Audit Findings/Notice of Noncompliance
2. PCE= Tetrachloroethylene
3. TCE = Trichloroethylene
4. VOCs = Volatile Organic Compounds
5. MNA = Monitored Natural Attenuation

Table 2-3. NAFNON Required Indoor Air Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Property	NAFNON Category	Access 2025/2026
91-93 Franklin Street	Passive EPMM	Yes
99 Franklin Street	CEP/Historical Refusal	No
162-164 Glen Street	CEP/Historical Refusal	Yes
166-168 Glen Street	Passive EPMM	Yes
17 Knowlton Street	Passive EPMM	Yes
32 Knowlton Street	Passive EPMM	Yes
34 Knowlton Street	Passive EPMM	Yes
4 Morton Street	Passive EPMM	Yes
11 Morton Street	Passive EPMM	Yes
19-19A Morton Street	Passive EPMM	Yes
9 Tufts	CEP/Historical Refusal	Pending
11-13 Tufts	CEP/Historical Refusal	No
17 Tufts	CEP/Historical Refusal	No
19 Tufts	CEP/Historical Refusal	Yes
25 Tufts Street	CEP/Historical Refusal	Yes

General Notes:

1. NAFNON = Notice of Audit Findings/Notice of Noncompliance
2. EPMM = Exposure Pathway Mitigation Measure.
3. CEP = Critical Exposure Pathway

Table 2-4. Correspondence Tracking - Properties Identified in NAFNON
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Property	Date	Communication
91-93 Franklin Street	February 2025	Email correspondence to schedule indoor air sampling. Conducted February 17-18, 2025.
	February 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	April 2025	Mailed indoor air sampling results letter to homeowner.
	December 2025	Phone correspondence to schedule EPMM inspection and indoor air sampling. Conducted December 18-19, 2025.
	January 2026	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	January 29, 2026	Mailed indoor air sampling results letter to homeowner.
99 Franklin Street	December 5, 2025	Attempted to mail certified letter to 99 Franklin Street regarding environmental conditions and requesting access to conduct additional indoor air sampling. Letter returned to sender.
	December 18, 2025	Mailed certified letter to homeowner's address regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	January 28, 2026	Visited property to see if we could establish contact with a tenant. No contact.
	January 29, 2026	Mailed another copy of certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February 12, 2026	UniFirst's Attorney provided possible phone numbers from records search. Attempted calling. Calls failed (out of service).
	February 17, 2026	Mailed another copy of certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	March 24, 2026	Visited property again to see if we could establish contact with a tenant. No contact.
162-164 Glen Street	December 5, 2025	Mailed certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	December 17, 2025	Visited property and knocked on door. Met with owner. Scheduling of indoor air sampling is pending owner availability in early 2026.
	January 1, 2026	Email correspondence with homeowner to schedule indoor air sampling. Conducted February 5-6, 2026.
	January 29, 2026	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	March 2, 2026	Email correspondence with homeowner to schedule a second round of indoor air sampling
	March 3, 2026	Called home phone to schedule a second round of indoor air sampling. Conducted March 9-10, 2026.
	March 5, 2026	Emailed February 2026 indoor air sampling results letter to homeowner.
	March 9, 2026	Notice of Sampling letter handed to homeowner during second round of sampling.
	May 6, 2026	Emailed March 2026 indoor air sampling results letter to homeowner.
166-168 Glen Street	February 14, 2025	Email with homeowner to schedule indoor air sampling. Conducted February 20-21, 2025.
	February 19, 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	April 3, 2025	Emailed indoor air sampling results letter to homeowner.
	October - December 2025	Email/phone calls with homeowner regarding potential sewer line replacement.
	December 2025	Called and emailed to schedule EPMM inspection and indoor air sampling. Unable to schedule in 2025.
	January 13, 2026	Text correspondence with homeowner. Scheduled EPMM inspection and indoor air sampling for January 27-28, 2026.
	January 27, 2026	Notice of sampling handed to homeowner during sampling.
	January 29, 2026	Text with homeowner to schedule resample of basement sample due to ambient indoor air canister. Conducted February 5-6, 2026.
	March 5, 2026	Emailed indoor air sampling results letter to homeowner.
17 Knowlton Street	February 20, 2025	Email with homeowner to schedule sampling. Conducted March 5-6, 2025.
	March 4, 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	April 4, 2025	Emailed indoor air sampling results letter to homeowner.
	December 2025	Email with homeowner to schedule EPMM inspection and indoor air sampling. Unable to schedule in 2025.
	January 20, 2026	Visited property to discuss scheduling with homeowner. No contact.
	January 23, 2026	Visited property again to discuss scheduling with homeowner. Scheduled EPMM inspection and indoor air sampling for January 27-28, 2026.
	January 27, 2026	Notice of sampling letter handed to homeowner during sampling.
	March 5, 2026	Mailed indoor air sampling results letter to homeowner.
32 Knowlton Street	February 21, 2025	Phone call to schedule indoor air sampling. Conducted February 27-28, 2025.
	February 26, 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	April 4, 2025	Mailed indoor air sampling results letter to homeowner.
	December 2025	Called to schedule EPMM inspection and indoor air sampling. Conducted December 18-19, 2025.
	January 2026	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	January 29, 2026	Mailed indoor air sampling results letter to homeowner.

Table 2-4. Correspondence Tracking - Properties Identified in NAFNON
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Property	Date	Communication
34 Knowlton Street	February 14, 2025	Phone call to schedule indoor air sampling. Conducted February 24-25, 2025.
	February 19, 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	February 26, 2025	Homeowner email response to request for vapor pin installation. Agreed to not install the vapor pin at the homeowner request.
	March 24, 2025	Email to schedule resample of first floor sample due to ambient indoor air canister. Conducted April 8-9, 2025.
	April 15, 2025	Emailed indoor air sampling results letter to homeowner.
	December 2025	Called to schedule EPMM inspection and indoor air/soil vapor (riser pipe) sampling. Conducted December 18-19, 2025.
	January 2026	Notice of Sampling letter mailed to homeowner for indoor air and soil vapor sampling.
	January 30, 2026	Emailed indoor air and soil vapor results letter to owner.
4 Morton Street	December 17, 2025	Visited property and met with tenant, who provided updated information for homeowner to attempt to contact.
	December 18, 2025	Mailed certified letter to homeowner requesting access to conduct EPMM inspection and schedule additional indoor air sampling.
	January 13, 2026	Called homeowner's cell phone provided by tenant. No contact. Followed up with an email to homeowner.
	January 14, 2026	Homeowner replied to email and requested a follow-up (in regards to scheduling indoor air sampling) in February because they were out of town.
	February 2026	Sent follow-up emails and texts to the homeowner to schedule indoor air sampling.
	February 19, 2026	Owner followed up via email, requesting that sampling be delayed a few more weeks due to snow and difficulties parking. Replied via email offering the owner parking at 50 Tufts Street, and reiterated the need to sample during the heating season.
	February 20, 2026	Continued email correspondence for scheduling. First round of indoor air sampling scheduled for February 26-27, 2026.
	February 26, 2026	Notice of Sampling letter provided to homeowner during February 2026 sampling.
	February 27, 2026	Continued correspondence with owner and tenants. Scheduled second round of sampling for March 5-6, 2026.
	March 3, 2026	Emailed Notice of Sampling letter for March 2026 sampling to homeowner.
	May 6, 2026	Emailed February and March 2026 indoor air sampling results letter to homeowner.
11 Morton Street	February 2025	Emails with homeowner to schedule sampling.
	April 3, 2025	Email with homeowner to schedule sampling. Conducted April 7-8, 2025.
	April 30, 2025	Email with homeowner to schedule resample of basement sample due to ambient indoor air canister; also sample first floor again for confirmation. Conducted May 6-7, 2025.
	June 25, 2025	Email indoor air results to homeowner and request for phone call.
	July - December 2025	Periodic emails/phone calls with homeowner related to RTN 3-52237, including to schedule indoor air/soil vapor sampling & install APUs.
	September 29, 2025	Email indoor air and soil vapor results (related to RTN 3-52237) and phone call discussion with homeowner.
	December 2, 2025	Provided copy of Notification Retraction Letter for RTN 3-52237 to homeowner via email upon request.
	December 2025	Email/phone calls to schedule additional indoor air and soil vapor sampling (second round for NAFNON). Conducted on December 18-19, 2025.
	January 2026	Notice of Sampling letter mailed for indoor air and soil vapor sampling.
	January 26, 2026	Emailed Results letter for December 2025 indoor air and soil vapor sampling.
19-19A Morton Street	February 19, 2025	Email with homeowner to schedule indoor air sampling and coordination with tenants. Conducted February 24-25, 2025.
	February 26, 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	April 4, 2025	Emailed indoor air sampling results letter to homeowner.
	December 2025	Email with homeowner and coordination with tenants to schedule EPMM inspection and indoor air sampling. Conducted December 18-19, 2025.
	January 2026	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	January 30, 2026	Emailed indoor air sampling results letter to homeowner.
9 Tufts Street	December 5, 2025	Attempted to mail certified letter to 9 Tufts Street regarding environmental conditions and requesting access to conduct additional indoor air sampling. Letter returned to sender.
	December 17, 2025	Visited property. No contact. Could not determine building owner's unit based on mailbox names so did not leave a copy of letter.
	January 29, 2026	Mailed a copy of certified letter to homeowner's address regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February 12, 2026	UniFirst's Attorney provided possible phone numbers from records search. Attempted calling. Spoke to someone who said they will forward the message along.
	February 17, 2026	Mailed another copy of certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February and March 2026	Additional attempts calling phone numbers provided by attorney. No contact. Left voicemails.
	March 24, 2026	Visited 9 Tufts street homeowner's address at 19 Rhode Island Avenue in Somerville and spoke with owner. Discussed sampling at 9 Tufts Street, which he agreed to pending tenant coordination. Handed a copy of access request letter and business card for his records.
	March 25, 2026	Called homeowner and discussed desire to sample the following week. He said he will get back to GEI after talking with the tenants. Sent a follow up email to clarify the sampling procedure and timing.
	March and June 2026	Had not heard back from homeowner after call on March 25th. Followed up with phone calls; no response.

Table 2-4. Correspondence Tracking - Properties Identified in NAFNON
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Property	Date	Communication
11-13 Tufts Street	December 5, 2025	Mailed certified letters to homeowners of Units 1 to 3 regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	December 17, 2025	Visited property and met with owner of Unit 2. Scheduling of indoor air sampling is pending owner availability in early 2026.
	January 23, 2026	Had not heard back from owner since Holidays when a copy of certified mail was left in the mailbox. Visted property again. No contact.
	January 28, 2026	Visted property again. No contact.
	January 29, 2026	Mailed another copy of certified letter to homeowners regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February 17, 2026	Mailed another copy of certified letter to homeowners regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	March 24, 2026	Visited property again. No contact. Left copy of access request letter with business card in mailbox.
17 Tufts Street	December 5, 2025	Mailed certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	December 17, 2025	Visited property. No contact. Left copy of certified letter in mailbox.
	January 23, 2026	Visted property. Contacted tenant and left business card. Tenant stated they would share with the homeowner.
	January 28, 2026	Visted property again. No contact.
	January 29, 2026	Mailed a copy of certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February 12, 2026	UniFirst's Attorney provided possible phone numbers from records search. Attempted calling. No contact. Followed up with a text (voicemail box full).
	February 17, 2026	Mailed another copy of certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February and March 2026	Additional attempts calling phone numbers provided by attorney. No contact. Followed up with a text (voicemail box full).
	March 24, 2026	Visited property again. No contact. Left copy of access request letter with business card in mailbox.
19 Tufts Street	December 5, 2025	Mailed certified letters to homeowners regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	December 17, 2025	Visited property and met with owner. Scheduling of indoor air sampling is pending owner availability in early 2026.
	January 2026	Email correspondence with homeowner. Indoor air sampling scheduled for January 14-15, 2026.
	January 29, 2026	Notice of sampling mailed to owner for indoor air sampling.
	March 2, 2026	Email correspondence with homeowner for a second round of indoor air sampling. Scheduled for March 9-10, 2026.
	March 5, 2026	Emailed January 2026 indoor air sampling results letter to homeowner.
	March 9, 2026	Notice of sampling provided to owner during sampling.
	May 6, 2026	Emailed March 2026 indoor air sampling results letter to homeowner.
25 Tufts Street	December 5, 2025	Mailed certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	December 17, 2025	Visited property. No contact. Left copy of certified letter in mailbox.
	January 14, 2026	Visited property and met with homeowner (owner of 25 and 27 Tufts Street).
	January 15, 2026	Text correspondence with homeowner. Indoor air sampling scheduled for January 19-20, 2026.
	January 19, 2026	Notice of sampling provided to owner during sampling.
	March 2, 2026	Text correspondence with homeowner to schedule a second round of indoor air sampling.
	March 3, 2026	Followed up via text with homeowner. Indoor air sampling scheduled for March 5-6, 2026.
	March 5, 2026	Notice of sampling provided to owner during sampling.
	March 5, 2026	Mailed January 2026 indoor air sampling results letter to homeowner.
	March 6, 2026	The owner inquired about the Results letter from January 2026 sampling. Informed the owner that the letter was out for mailing. The owner provided an email address so the results could be sent electronically as well.
	May 6, 2026	Emailed March 2026 indoor air sampling results letter to homeowner.

General Notes:
1. EPMM = Exposure Pathway Mitigation Measure.
2. NAFNON = Notice of Audit Finding, Notice of Noncompliance. Issued by Massachusetts Department of Environmental Protection to UniFirst on December 12, 2024.

Table 6-1 - Chemical Testing Results - Indoor Air (91-93 Franklin Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:			Basement															
Sample Name:			93 Franklin-B		91-93 FRANK-B		91-93FRAN-B		91-93FRAN-B		91-93FRAN-B		91-93FRAN-B		93FRAN-B		93FRAN-B	
Sample Date:			2/14/07		4/8/09		3/24/10		12/7/2010		2/2/2011		3/2/2012		2/28/25		12/19/25	
EPMM (Vent) Status:			NA (pre-installation)		Vent Open		Vent Open		Vent Open		Vent Open		Vent Open		Vent Open		Vent Open	
Units:			µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**																
Volatile Organic Compounds (VOCs)	TO-15																	
Tetrachloroethylene (PCE)		1.4	3.5	0.52	< 1.4	< 0.20	< 1.4	< 0.20	<1.4	<0.20	<1.4	<0.20	<1.4	<0.20	0.156	0.023	0.278	0.041

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. NA = Not applicable
8. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation, and Closure" dated October 2016.
9. Highlighted samples were collected to satisfy NAFNON.
10. 91-93 Franklin Street is a single building with two first floor units (91 and 93 Franklin Street). On February 28, 2025, and December 19, 2025, a sample was collected from both first floor units in addition to the one sample in the shared basement.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-1 - Chemical Testing Results - Indoor Air (91-93 Franklin Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	First Floor																			
		Sample Name:	93 Franklin-1		91-93 FRANK-1		91-93FRAN-1		91-93FRAN-1		91-93FRAN-1		91-93FRAN-1		93FRAN-1		91FRAN-1		93FRAN-1		91FRAN-1	
		Sample Date:	2/14/07		4/8/09		3/24/10		12/7/10		2/2/11		3/2/12		2/28/25		2/28/25		12/19/25		12/19/25	
		EPMM (Vent) Status:	NA (pre-installation)		Vent Open		Vent Open		Vent Open		Vent Open		Vent Open		Vent Open		Vent Open		Vent Open		Vent Open	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**																				
Volatile Organic Compounds (VOCs)																						
Tetrachloroethylene (PCE)	TO-15	1.4	0.95 J	0. 14 J	< 1.4	< 0.20	< 1.4	< 0.20	<1.4	<0.20	<1.4	<0.20	<1.4	<0.20	0.183	0.027	0.163	0.024	0.231	0.034	0.665	0.098

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. NA = Not applicable
8. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation, and Closure" dated October 2016.
9. Highlighted samples were collected to satisfy NAFNON.
10. 91-93 Franklin Street is a single building with two first floor units (91 and 93 Franklin Street). On February 28, 2025, and December 19, 2025, a sample was collected from both first floor units in addition to the one sample in the shared basement.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-2 - Chemical Testing Results - Indoor Air (166-168 Glen Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:			**Basement**												
Sample Name:			**166GLEN-B**		**166GLEN-B**		**166-168GLEN-B**		**166GLEN-B**		**166GLEN-B**		**166GLEN-B1**		**166GLEN-B1**	
Sample Date:			**9/7/07**		**11/30/10**		**2/5/11**		**12/14/11**		**3/2/12**		**2/21/25**		**2/6/26**	
EPMM (Vent) Status:			**NA (pre-installation)**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**	
Units:			**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m³)**														
Volatile Organic Compounds (VOCs)	TO-15															
1,1,1-Trichloroethane (TCA)		3	0.65 J	0.12 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	<0.109	<0.020	<0.109	<0.020
1,1-Dichloroethylene (1,1-DCE)		0.8	<0.79	<0.20	<0.79	< 0.20	<0.79	< 0.20	<0.79	< 0.20	<0.79	< 0.20	<0.079	<0.020	<0.079	<0.020
Carbon tetrachloride		0.54	0.75 J	0.12 J	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	4.1	0.61	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	0.407	0.060	0.719	0.106
trans-1,2-Dichloroethylene (trans-1,2-DCE)		0.8	<0.79	<0.20	<0.79	< 0.20	<0.79	< 0.20	<0.79	< 0.20	<0.79	< 0.79	0.230	0.058	<0.079	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. NT = Not tested
8. NA = Not applicable
9. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
10. Highlighted samples were collected to satisfy NAFNON.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.

Table 6-2 - Chemical Testing Results - Indoor Air (166-168 Glen Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:			**First Floor**													
Sample Name:			**166GLEN-1**		**166GLEN-1**		**166-168GLEN-1**		**166GLEN-1**		**166GLEN-1**		**166GLEN-F1**		**166GLEN-F1**	
Sample Date:			**9/7/07**		**11/30/10**		**2/5/11**		**12/14/11**		**3/2/12**		**2/21/25**		**1/28/26**	
EPMM (Vent) Status:			**NA (pre-installation)**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**	
Units:			**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**														
Volatile Organic Compounds (VOCs)	TO-15															
1,1,1-Trichloroethane (TCA)		3	0.47 J	0.087 J	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.6	< 0.30	< 1.1	< 0.20	<0.109	<0.020	<0.109	<0.020
1,1-Dichloroethylene (1,1-DCE)		0.8	<0.79	<0.20	<0.79 J+	< 0.20 J+	<0.79	< 0.20	<1.2	< 0.30	< 0.79	< 0.20	<0.079	<0.020	<0.079	<0.020
Carbon tetrachloride		0.54	0.88 J	0.14 J	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	5.0	0.74	< 1.4 J+	< 0.20 J+	< 1.4	< 0.20	< 2.0	< 0.30	< 1.4	< 0.20	1.12	0.165	1.57	0.232
trans-1,2-Dichloroethylene (trans-1,2-DCE)		0.8	<0.79	<0.20	<0.79 J+	< 0.20 J+	<0.79	< 0.20	<1.2	< 0.30	< 0.79	<0.20	<0.079	<0.020	<0.079	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. NT = Not tested
8. NA = Not applicable
9. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
10. Highlighted samples were collected to satisfy NAFNON.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.

Table 6-3 - Chemical Testing Results - Indoor Air (17 Knowlton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:			**First Floor**													
Sample Name:			**17KNOW-1**		**17KNOW-1**		**17KNOW-1**		**17KNOW-1**		**17KNOW-1**		**17KNOW-1**		**17KNOW-1**	
Sample Date:			**10/5/07**		**5/13/09**		**6/5/09**		**2/24/11**		**3/8/12**		**3/6/25**		**1/28/26**	
EPMM (Vent) Status:			**NA (pre-installation)**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**	
Units:			**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**														
Volatile Organic Compounds (VOCs)	TO-15															
1,1,1-Trichloroethane (TCA)		3	0.13 J	0.71 J	<1.1	< 0.20	<1.1	< 0.20	<1.1	< 0.20	<1.1	< 0.20	<0.109	<0.020	<0.109	<0.020
1,2-Dichloroethane (1,2-DCA)		0.09	<0.81	<0.20	0.81	0.20	0.93	0.23	NT	NT	NT	NT	NT	NT	NT	NT
Carbon tetrachloride		0.54	0.63 J	0.10 J	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	1.7	0.25	1.6	0.23	< 1.4	< 0.20	1.1 J	0.16 J	2.6	0.39	0.163	0.024	0.190	0.028

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. NT = Not tested
8. NA = Not applicable
9. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
10. Highlighted samples were collected to satisfy NAFNON.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-3 - Chemical Testing Results - Indoor Air (17 Knowlton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:			**Basement**															
Sample Name:			**17KNOW-B**		**17KNOW-B**		**17KNOW-B**		**17KNOW-B**		**17KNOW-B**		**17KNOW-B**		**17KNOW-B**		**17KNOW-B**	
Sample Date:			**10/5/07**		**5/13/09**		**6/5/09**		**11/19/10**		**2/24/11**		**3/8/12**		**3/6/25**		**1/28/26**	
EPMM (Vent) Status:			**NA (pre-installation)**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**	
Units:			**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**																
Volatile Organic Compounds (VOCs)	TO-15																	
1,1,1-Trichloroethane (TCA)		3	<1.1	<0.20	<1.1	< 0.20	<1.1	< 0.20	<1.1	< 0.20	<1.1	< 0.20	<1.1	< 0.20	<0.109	<0.020	<0.109	<0.020
1,2-Dichloroethane (1,2-DCA)		0.09	<0.81	<0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Carbon tetrachloride		0.54	0.60 J	0.095 J	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	2.7	0.40	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	3.3	0.49	< 1.4	< 0.20	0.203	0.030	0.210	0.031

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. NT = Not tested
8. NA = Not applicable
9. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
10. Highlighted samples were collected to satisfy NAFNON.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-4 - Chemical Testing Results - Indoor Air (32 Knowlton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	**First Floor**																	
		Sample Name:	**32KNOW-1**		**32KNOW-1**		**32KNOW-1**		**32KNOW-1**		**32KNOW-1**		**32KNOW-1**		**32KNOW-1**		**32KNOW-1**		**32KNOW-1**	
		Sample Date:	**10/30/08**		**1/16/09**		**7/31/09**		**7/31/09**		**1/29/10**		**11/19/10**		**3/8/11**		**2/28/25**		**12/19/25**	
		EPMM (Vent) Status:	**NA (pre-installation)**		**NA (pre-installation)**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**		**Vent Open**	
		Units:	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m³)**																		
Volatile Organic Compounds (VOCs)	TO-15																			
1,2-Dichloroethane (1,2-DCA)		0.09	0.49 J	0.12 J	<0.81	<0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT
Carbon tetrachloride		0.54	0.58 J	0.092 J	0.63 J	0.10 J	<1.3	< 0.20	<1.3	< 0.20	<1.3	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT
cis-1,2-Dichloroethylene (cis-1,2-DCE)		0.8	<0.79	<0.20	<0.79	<0.20	<0.79	< 0.20	<0.79	< 0.20	<0.79	< 0.20	<0.79	< 0.20	<0.79	< 0.20	<0.079	<0.020	<0.079	<0.020
Tetrachloroethylene (PCE)		1.4	<1.4	<0.20	5.6	0.82	<1.4	< 0.20	<1.4	< 0.20	<1.4	< 0.20	<1.4	< 0.20	<1.4	< 0.20	0.163	0.024	<0.136	<0.020
Trichloroethylene (TCE)		0.4	<1.1	<0.20	<1.1	<0.20	<1.1	< 0.20	<1.1	< 0.20	<1.1	< 0.20	<1.1	< 0.20	<1.1	< 0.20	<0.107	<0.020	<0.107	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. NT = Not tested.
8. NA = Not applicable
9. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation, and Closure" dated October 2016.
9. Highlighted samples were collected to satisfy NAFNON.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-4 - Chemical Testing Results - Indoor Air (32 Knowlton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	Basement															
		Sample Name:	32KNOW-B		32KNOW-B		32KNOW-B		32KNOW-B		32KNOW-B		32KNOW-B		32KNOW-B		32KNOW-B	
		Sample Date:	10/30/08		1/16/09		7/31/09		1/29/10		11/19/10		3/8/11		2/28/25		12/19/25	
		EPMM (Vent) Status:	NA (pre-installation)		NA (pre-installation)		Vent Open		Vent Open		Vent Open		Vent Open		Vent Open		Vent Open	
		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m³)**																
Volatile Organic Compounds (VOCs)	TO-15																	
1,2-Dichloroethane (1,2-DCA)		0.09	<0.81	<0.20	<0.81	<0.20	3.0	0.73	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT
Carbon tetrachloride		0.54	0.61 J	0.097 J	0.57 J	0.091 J	<1.3	< 0.20	<1.3	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT
cis-1,2-Dichloroethylene (cis-1,2-DCE)		0.8	<0.79	<0.20	0.59 J	0.15 J	<0.79	< 0.20	<0.79	< 0.20	<0.79	< 0.20	<0.79	< 0.20	<0.079	<0.020	<0.079	<0.020
Tetrachloroethylene (PCE)		1.4	<1.4	<0.20	20	3.0	<1.4	< 0.20	<1.4	< 0.20	<1.4	< 0.20	<1.4	< 0.20	0.136	0.020	0.136	0.020
Trichloroethylene (TCE)		0.4	<1.1	<0.20	0.91 J	0.17 J	<1.1	< 0.20	<1.1	< 0.20	<1.1	< 0.20	<1.1	< 0.20	<0.107	<0.020	<0.107	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. NT = Not tested.
8. NA = Not applicable
9. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation, and Closure" dated October 2016.
9. Highlighted samples were collected to satisfy NAFNON.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-5a - Chemical Testing Results - Indoor Air (34 Knowlton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	Basement															
		Sample Name:	34KNOWLTON-BASE		34-KNOWLTON-BASE		34-KNOWLTON-BASE		34-KNOW-B		34-KNOW-B		34-KNOW-B		34-KNOW-B		34-KNOW-B	
		Sample Date:	6/21/14		4/8/15		4/28/15		2/17/16		11/9/16		3/17/17		2/25/25		12/19/25	
		Collected By:	GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI	
		EPMM (Vent) Status:	Vent Open		Vent Open		Vent Open		Vent Closed		Vent Closed		Vent Open		Vent Open		Vent Open	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**																
Volatile Organic Compounds (VOCs)	TO-15																	
1,1,1-Trichloroethane (TCA)		3	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<0.109	<0.020	<0.109	<0.020
cis-1,2-Dichloroethylene (cis-1,2-DCE)		0.8	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	<0.079	<0.020	<0.079	<0.020
Tetrachloroethylene (PCE)		1.4	<1.4	<0.20	<1.4	<0.20	<1.4	<0.20	0.54	0.08	1.8	0.26	1.9	0.28	<0.136	<0.020	<0.136	<0.020
trans-1,2-Dichloroethylene (trans-1,2-DCE)		0.8	11	2.8	<0.79	<0.20	<0.79	<0.20	< 0.79	< 0.20	1.3	0.32	<0.79	<0.20	0.135	0.034	0.190	0.048
Trichloroethylene (TCE)		0.4	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<0.21	<0.040	<0.21	<0.040	<0.21	<0.040	<0.107	<0.020	<0.107	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation, and Closure" dated October 2016.
8. Highlighted samples were collected to satisfy NAFNON.
9. April 8, 2015 detections of PCE attributed to dry-cleaned clothing present in the residence.
10. The indoor air samples collected in February 2016 and November 2016 were collected under conditions that simulate the absence of the passive EPMM at the property.

Table 6-5a - Chemical Testing Results - Indoor Air (34 Knowlton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:			First Floor															
Sample Name:			34KNOWLTON-1		34-KNOWLTON-1		34-KNOWLTON-1		34-KNOW-1		34-KNOW-1		34-KNOW-1		34-KNOW-1		34-KNOW-1	
Sample Date:			6/21/14		4/8/15		4/28/15		2/17/16		11/9/16		3/17/17		4/9/25		12/19/25	
Collected By:			GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI	
EPMM (Vent) Status:			Vent Open		Vent Open		Vent Open		Vent Closed		Vent Closed		Vent Open		Vent Open		Vent Open	
Units:			µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m³)**																
Volatile Organic Compounds (VOCs)	TO-15																	
1,1,1-Trichloroethane (TCA)		3	<1.1	<0.20	1.2	0.22	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<0.109	<0.020	<0.109	<0.020
cis-1,2-Dichloroethylene (cis-1,2-DCE)		0.8	<0.79	<0.20	6.3	1.6	<0.79	<0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	<0.079	<0.020	<0.079	<0.020
Tetrachloroethylene (PCE)		1.4	<1.4	<0.20	70.5	10.4	2.4	0.36	2.6	0.38	5.5	0.81	3.7	0.54	0.163	0.024	<0.136	<0.020
trans-1,2-Dichloroethylene (trans-1,2-DCE)		0.8	18	4.6	<0.79	<0.20	1.5	0.39	< 0.79	< 0.20	1.2	0.30	<0.79	<0.20	0.127	0.032	0.151	0.038
Trichloroethylene (TCE)		0.4	<1.1	<0.20	1.2	0.22	<1.1	<0.20	<0.21	<0.040	0.32	0.06	<0.21	<0.040	<0.107	<0.020	<0.107	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation, and Closure" dated October 2016.
8. Highlighted samples were collected to satisfy NAFNON.
9. April 8, 2015 detections of PCE attributed to dry-cleaned clothing present in the residence.
10. The indoor air samples collected in February 2016 and November 2016 were collected under conditions that simulate the absence of the passive EPMM at the property.

Table 6-5a - Chemical Testing Results - Indoor Air (34 Knowlton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

			Sample Location:	Second Floor		Third Floor	
			Sample Name:	34-KNOWLTON-2		34-KNOWLTON-3	
			Sample Date:	4/28/15		4/28/15	
			Collected By:	GEI		GEI	
			EPMM (Vent) Status:	Vent Open		Vent Open	
			Units:	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**					
Volatile Organic Compounds (VOCs)	TO-15						
1,1,1-Trichloroethane (TCA)		3		<1.1	<0.20	<1.1	<0.20
cis-1,2-Dichloroethylene (cis-1,2-DCE)		0.8		<0.79	<0.20	<0.79	<0.20
Tetrachloroethylene (PCE)		1.4		<1.4	<0.20	<1.4	<0.20
trans-1,2-Dichloroethylene (trans-1,2-DCE)		0.8		4.8	1.2	16	4.0
Trichloroethylene (TCE)		0.4		<1.1	<0.20	<1.1	<0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation, and Closure" dated October 2016.
8. Highlighted samples were collected to satisfy NAFNON.
9. April 8, 2015 detections of PCE attributed to dry-cleaned clothing present in the residence.
10. The indoor air samples collected in February 2016 and November 2016 were collected under conditions that simulate the absence of the passive EPMM at the property.

Table 6-5b - Chemical Testing Results Sub-Slab Soil Vapor (34 Knowlton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:			**34 Knowlton**							
EPMM (Vent) Status:			**Vent Open**		**Vent Closed**		**Vent Closed**		**Vent Open**	
Sample Name:			**34KNOW-SV**		**34KNOW-SV**		**34KNOW-SV**		**34-KNOW-SV-R**	
Sample Date:			**4/28/2015**		**2/1/2016**		**11/9/2016**		**12/19/2025**	
Units:			**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**
Analyte	**Method**	**MassDEP Residential Sub-Slab Soil Gas Screening Values (µg/m^3)**								
Volatile Organic Compounds (VOCs)	TO-15									
Tetrachloroethylene (PCE)		98	< 1.4	<0.20	8.1	1.2	1.9	0.28	1.00	0.148
trans-1,2-Dichloroethylene (trans-1,2-DCE)		56	<0.79	<0.20	<23	<5.9	<3.2	<0.80	0.135	0.034

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. Residential Sub-Slab Soil Gas Screening Values taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
8. Results highlighted are the most recent samples
9. The sample collected on April 28, 2015 was taken from the uncapped riser pipe of the passive venting system.
10. On January 25, 2016, GEI observed the installation of a shutdown valve on the riser pipe of the passive venting system.
11. The shutdown valve was closed for one week prior to the soil vapor samples collected on February 1, 2016 and November 9, 2016.
12. The shutdown valve was not closed for the sample collected on December 19, 2025.

Table 6-6 - Chemical Testing Results - Indoor Air (4 Morton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:			First Floor													
Sample Name:			4MORT-1		4MORT-1		4MORT-1		4MORT-1		4 MORT-1		4 MORT-1		4 MORT-1	
Sample Date:			3/7/09		8/10/09		3/4/10		12/5/10		7/15/11		2/27/26		3/6/26	
EPMM (Vent) Status:			Vent Open		Vent Open		Vent Open		Vent Open		Vent Open		Vent Open		Vent Open	
Units:			µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**														
Volatile Organic Compounds (VOCs)	TO-15															
1,2-Dichloroethane (1,2-DCA)		0.09	< 0.81	< 0.20	0.65 J	0.16 J	2.2	0.55	NT	NT	NT	<0.20	NT	NT	NT	NT
Carbon tetrachloride		0.54	0.61 J	0.097 J	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	NT	< 0.020
Tetrachloroethylene (PCE)		1.4	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	<1.4	<0.20	<1.4	<0.20	0.203	0.030	0.231	0.034
Trichloroethylene (TCE)		0.4	<1.1	<0.20	<1.1	< 0.20	<1.1	< 0.20	<1.1	<0.20	<1.1	<0.20	<0.107	<0.020	< 0.107	< 0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. NT = Not tested
8. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
9. Highlighted samples were collected to satisfy NAFNON.
10. No pre-EPMM indoor air samples were collected. The EPMM was installed based on sub-slab soil vapor testing results.
11. Samples collected after August 2009 were collected over a 24-hour period ending on the date shown. Samples collected in March and August 2009 were collected over a 4-hour period.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-6 - Chemical Testing Results - Indoor Air (4 Morton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:			Basement													
Sample Name:			4MORT-B		4MORT-B		4MORT-B		4MORT-B		4 MORT-B		4 MORT-B		4 MORT-B	
Sample Date:			3/7/09		8/10/09		3/4/10		12/5/10		7/15/11		12/13/11		3/21/12	
EPMM (Vent) Status:			Vent Open		Vent Open		Vent Open		Vent Open		Vent Open		Vent Open		Vent Open	
Units:			µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**														
Volatile Organic Compounds (VOCs)	TO-15															
1,2-Dichloroethane (1,2-DCA)		0.09	< 1.8	< 0.20	< 0.79	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT
Carbon tetrachloride		0.54	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	18	2.6	1.4	0.20	5.7	0.84	15	2.2	14	2.0	12	1.8	15	2.2
Trichloroethylene (TCE)		0.4	<1.1	< 0.20	<1.1	< 0.20	<1.1	< 0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. NT = Not tested
8. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
9. Highlighted samples were collected to satisfy NAFNON.
10. No pre-EPMM indoor air samples were collected. The EPMM was installed based on sub-slab soil vapor testing results.
11. Samples collected after August 2009 were collected over a 24-hour period ending on the date shown. Samples collected in March and August 2009 were collected over a 4-hour period.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-6 - Chemical Testing Results - Indoor Air (4 Morton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	Basement (cont.)			
		Sample Name:	4 MORT-B		4 MORT-B	
		Sample Date:	2/27/26		3/6/26	
		EPMM (Vent) Status:	Vent Open		Vent Open	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**				
Volatile Organic Compounds (VOCs)	TO-15					
1,2-Dichloroethane (1,2-DCA)		0.09	NT	NT	NT	NT
Carbon tetrachloride		0.54	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	5.77	0.851	4.68	0.690
Trichloroethylene (TCE)		0.4	0.333	0.062	0.236	0.044

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. NT = Not tested
8. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
9. Highlighted samples were collected to satisfy NAFNON.
10. No pre-EPMM indoor air samples were collected. The EPMM was installed based on sub-slab soil vapor testing results.
11. Samples collected after August 2009 were collected over a 24-hour period ending on the date shown. Samples collected in March and August 2009 were collected over a 4-hour period.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-7a - Chemical Testing Results - Indoor Air (11 Morton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	**First Floor**																	
		Sample Name:	**11 MORT-1**		**11MORT-1A**		**11MORT-1B**		**11MORT-1**		**11MORT-1**		**11MORT-1**		**11MORT-1**		**11MORT-1**		**11MORT-F1**	
		Sample Date:	**10/23/08**		**1/21/09**		**1/21/09**		**8/11/09**		**2/23/10**		**2/17/16**		**5/26/21**		**4/8/25**		**5/7/25**	
		EPMM (Vent) Status:	**Open**		**Open**		**Open**		**Open**		**Open**		**Open**		**Open**		**Open**		**Open**	
		APU Status:	**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**	
		Units:	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m³)**																		
Volatile Organic Compounds (VOCs)	TO-15																			
1,1,1-Trichloroethane (TCA)		3	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	1.3	0.24	< 1.1	< 0.20	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020
1,2-Dichloroethane (1,2-DCA)		0.09	0.45 J	0.11 J	< 0.81	< 0.20	< 0.81	< 0.20	11	2.8	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT
Carbon tetrachloride		0.54	0.63 J	0.10 J	0.88 J	0.14 J	0.82 J	0.13 J	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.7	0.25	0.190	0.028	<0.136	<0.020	0.203	0.030
trans-1,2-Dichloroethylene (trans-1,2-DCE)		0.8	<0.79	< 0.20	<0.79	< 0.20	<0.79	< 0.20	<0.79	< 0.20	<0.79	< 0.20	<0.79	< 0.20	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020
Trichloroethylene (TCE)		0.4	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.21	< 0.040	0.279	0.052	1.05	0.196	2.77	0.516

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. EPMM = Exposure Pathway Mitigation Measure.
6. NT= Not tested
7. NA = Not applicable
8. MassDEP = Massachusetts Department of Environmental Protection
9. Residential Threshold Values for indoor air taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
10. Highlighted sample indicates most recent sampling rounds.
11. The samples from January 21, 2009 (11MORT-B1 and B2, and 11MORT-1A and 1B) were field duplicates of each other.
12. The laboratory notes for 11MORT-B from April 2025 indicate that the cansiter ran ambient.
13. Art supplies used by the homeowner were removed on July 31, 2025
14. Air Purification Units (APUs) installed on the first floor on July 29, 2025, and in the finished portion of the basement on August 6, 2025.
15. APUs shutdown on 8/21/2025 following completion of sampling.
16. Highlighted samples indicate most recent round.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-7a - Chemical Testing Results - Indoor Air (11 Morton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:			First Floor (cont.)								Basement									
Sample Name:			11MORT-F1		11MORT-F1		11MORT-F1		11MORT-F1		11 MORT-B		11MORT-B1		11MORT-B2		11MORT-B		11MORT-B	
Sample Date:			7/16/25		8/21/25		8/29/25		12/19/25		10/23/08		1/21/09		1/21/09		8/11/09		2/23/10	
EPMM (Vent) Status:			Open		Open		Open		Open		Open		Open		Open		Open		Open	
APU Status:			NA		ON		OFF		OFF		NA		NA		NA		NA		NA	
Units:			µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**																		
Volatile Organic Compounds (VOCs)	TO-15																			
1,1,1-Trichloroethane (TCA)		3	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
1,2-Dichloroethane (1,2-DCA)		0.09	NT	NT	NT	NT	NT	NT	NT	NT	0.49 J	0.12 J	< 0.81	< 0.20	< 0.81	< 0.20	2.0	0.49	< 0.81	< 0.20
Carbon tetrachloride		0.54	NT	NT	NT	NT	NT	NT	NT	NT	0.69 J	0.11 J	1.6	0.25	1.5	0.24	< 1.3	< 0.20	< 1.3	< 0.20
Tetrachloroethylene (PCE)		1.4	0.149	0.022	<0.136	<0.020	<0.136	<0.020	<0.136	<0.020	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
trans-1,2-Dichloroethylene (trans-1,2-DCE)		0.8	0.135	0.034	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020	<0.79	< 0.20	<0.79	< 0.20	<0.79	< 0.20	<0.79	< 0.20	<0.79	< 0.20
Trichloroethylene (TCE)		0.4	8.65	1.61	0.989	0.184	6.56	1.22	2.18	0.406	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. EPMM = Exposure Pathway Mitigation Measure.
6. NT= Not tested
7. NA = Not applicable
8. MassDEP = Massachusetts Department of Environmental Protection
9. Residential Threshold Values for indoor air taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
10. Highlighted sample indicates most recent sampling rounds.
11. The samples from January 21, 2009 (11MORT-B1 and B2, and 11MORT-1A and 1B) were field duplicates of each other.
12. The laboratory notes for 11MORT-B from April 2025 indicate that the cansiter ran ambient.
13. Art supplies used by the homeowner were removed on July 31, 2025
14. Air Purification Units (APUs) installed on the first floor on July 29, 2025, and in the finished portion of the basement on August 6, 2025.
15. APUs shutdown on 8/21/2025 following completion of sampling.
16. Highlighted samples indicate most recent round.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-7a - Chemical Testing Results - Indoor Air (11 Morton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	**Basement (cont.)**																	
		Sample Name:	**11MORT-B**		**11MORT-B**		**11MORT-B**		**11MORT-B**		**11MORT-B**		**11MORT-B-Fin**		**11MORT-B-Unfin**		**11MORT-B-Fin**		**11MORT-B-Unfin**	
		Sample Date:	**2/17/16**		**5/26/21**		**4/8/25**		**5/7/25**		**7/16/25**		**8/21/25**		**8/21/25**		**8/29/25**		**8/29/25**	
		EPMM (Vent) Status:	**Open**		**Open**		**Open**		**Open**		**Open**		**Open**		**Open**		**Open**		**Open**	
		APU Status:	**NA**		**NA**				**NA**		**NA**		**ON**		**ON**		**OFF**		**OFF**	
		Units:	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**																		
Volatile Organic Compounds (VOCs)	TO-15																			
1,1,1-Trichloroethane (TCA)		3	< 1.1	< 0.20	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020
1,2-Dichloroethane (1,2-DCA)		0.09	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Carbon tetrachloride		0.54	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	2.2	0.33	<0.136	<0.020	<0.107	<0.020	0.217	0.032	0.149	0.022	<0.136	<0.020	<0.136	<0.020	<0.136	<0.020	<0.136	<0.020
trans-1,2-Dichloroethylene (trans-1,2-DCE)		0.8	<0.79	< 0.20	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020	0.135	0.034	<0.079	<0.020	<0.079	<0.020	0.083	0.021	<0.079	<0.020
Trichloroethylene (TCE)		0.4	< 0.21	< 0.040	0.301	0.056	<0.107	<0.020	0.269	0.05	6.88	1.28	0.215	0.040	0.124	0.023	4.11	0.765	1.21	0.225

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. EPMM = Exposure Pathway Mitigation Measure.
6. NT= Not tested
7. NA = Not applicable
8. MassDEP = Massachusetts Department of Environmental Protection
9. Residential Threshold Values for indoor air taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
10. Highlighted sample indicates most recent sampling rounds.
11. The samples from January 21, 2009 (11MORT-B1 and B2, and 11MORT-1A and 1B) were field duplicates of each other.
12. The laboratory notes for 11MORT-B from April 2025 indicate that the cansiter ran ambient.
13. Art supplies used by the homeowner were removed on July 31, 2025
14. Air Purification Units (APUs) installed on the first floor on July 29, 2025, and in the finished portion of the basement on August 6, 2025.
15. APUs shutdown on 8/21/2025 following completion of sampling.
16. Highlighted samples indicate most recent round.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-7a - Chemical Testing Results - Indoor Air (11 Morton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	**Basement (cont.)**			
		Sample Name:	**11MORT-B-Fin**		**11MORT-B-Unfin**	
		Sample Date:	**12/19/25**		**12/19/25**	
		EPMM (Vent) Status:	**Open**		**Open**	
		APU Status:	**OFF**		**OFF**	
		Units:	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**				
Volatile Organic Compounds (VOCs)	TO-15					
1,1,1-Trichloroethane (TCA)		3	<0.109	<0.020	<0.109	<0.020
1,2-Dichloroethane (1,2-DCA)		0.09	NT	NT	NT	NT
Carbon tetrachloride		0.54	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	0.536	0.079	<0.136	<0.020
trans-1,2-Dichloroethylene (trans-1,2-DCE)		0.8	<0.079	<0.020	<0.079	<0.020
Trichloroethylene (TCE)		0.4	0.742	0.138	<0.107	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. EPMM = Exposure Pathway Mitigation Measure.
6. NT= Not tested
7. NA = Not applicable
8. MassDEP = Massachusetts Department of Environmental Protection
9. Residential Threshold Values for indoor air taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
10. Highlighted sample indicates most recent sampling rounds.
11. The samples from January 21, 2009 (11MORT-B1 and B2, and 11MORT-1A and 1B) were field duplicates of each other.
12. The laboratory notes for 11MORT-B from April 2025 indicate that the cansiter ran ambient.
13. Art supplies used by the homeowner were removed on July 31, 2025
14. Air Purification Units (APUs) installed on the first floor on July 29, 2025, and in the finished portion of the basement on August 6, 2025.
15. APUs shutdown on 8/21/2025 following completion of sampling.
16. Highlighted samples indicate most recent round.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-7b - Chemical Testing Results - Sub-Slab Soil Vapor (11 Morton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	11 Morton Street											
		EPMM (Vent) Status:	NA (pre-installation)				Vent Open				Vent Open			
		Sample Name:	11 MORT-SS1		11 MORT-SS2		11-MORT-SV1		11-MORT-SV2		11-MORT-SV1		11-MORT-SV2	
		Sample Date:	3/21/2007		3/21/2007		7/16/2025		7/16/2025		8/21/2025		8/21/2025	
		Units:	ug/m^3	ppbv	ug/m^3	ppbv	ug/m^3	ppbv	ug/m^3	ppbv	ug/m^3	ppbv	ug/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Sub-Slab Soil Gas Screening Values (µg/m^3)**												
Volatile Organic Compounds (VOCs)	TO-15													
1,1,1-Trichloroethane (TCA)		210	8.2	1.5	<1.1	<0.20	0.267	0.049	0.136	0.025	0.366	0.067	0.256	0.047
1,1-Dichloroethane (1,1-DCA)		56	0.85	0.21	<0.81	<0.20	<0.081	<0.020	<0.081	<0.020	<0.081	<0.020	<0.081	<0.020
1,1-Dichloroethylene (1,1-DCE)		56	1.2	0.31	<0.79	<0.20	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020
Tetrachloroethylene (PCE)		98	403	59.5	1.6	0.23	1.57	0.232	21.0	3.10	1.27	0.188	20.0	2.95
Trichloroethylene (TCE)		28	9.7	1.8	<1.1	<0.20	0.500	0.093	1.55	0.289	0.124	0.023	0.736	0.137
Vinyl Chloride		19	<0.51	<0.20	<0.51	<0.20	0.151	0.059	0.138	0.054	<0.051	<0.020	<0.051	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. NA = Not applicable
8. Highlighted sample indicates most recent sampling round.
9. Residential Sub-Slab Soil Gas Screening Values taken from MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
10. New soil vapor points installed in July 2025.

Table 6-7b - Chemical Testing Results - Sub-Slab Soil Vapor (11 Morton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	11 Morton Street (cont.)							
		EPMM (Vent) Status:	Vent Open				Vent Open			
		Sample Name:	11-MORT-SV1		11-MORT-SV2		11-MORT-SV1		11-MORT-SV2	
		Sample Date:	8/29/2025		8/29/2025		12/19/2025		12/19/2025	
		Units:	ug/m^3	ppbv	ug/m^3	ppbv	ug/m3	ppbv	ug/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Sub-Slab Soil Gas Screening Values (µg/m^3)**								
Volatile Organic Compounds (VOCs)	TO-15									
1,1,1-Trichloroethane (TCA)		210	0.267	0.049	0.267	0.049	<0.109	<0.020	<0.109	<0.020
1,1-Dichloroethane (1,1-DCA)		56	<0.081	<0.020	<0.081	<0.020	<0.081	<0.020	<0.081	<0.020
1,1-Dichloroethylene (1,1-DCE)		56	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020
Tetrachloroethylene (PCE)		98	1.49	0.219	20.8	3.06	0.495	0.073	6.34	0.935
Trichloroethylene (TCE)		28	0.204	0.038	1.29	0.24	<0.107	<0.020	0.253	0.047
Vinyl Chloride		19	<0.051	<0.020	<0.051	<0.020	<0.051	<0.020	<0.051	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. NA = Not applicable
8. Highlighted sample indicates most recent sampling round.
9. Residential Sub-Slab Soil Gas Screening Values taken from MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
10. New soil vapor points installed in July 2025.

Table 6-8 - Chemical Testing Results - Indoor Air (19-19A Morton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Location Name:	First Floor															
		Sample Name:	19MORT-1		19MORT-1		19MORT-1		19MORT-1		19MORT-1		19MORT-1		19MORT-1		19MORT-1	
		Sample Date:	7/2/07		4/4/08		8/18/08		1/13/09		9/3/09		1/29/10		12/7/10		4/10/11	
		EPMM (Vent) Status:	NA (pre-installation)		NA (pre-installation)		NA (pre-installation)		NA (pre-installation)		Vent Open		Vent Open		Vent Open		Vent Open	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values**																
Volatile Organic Compounds (VOCs)	TO-15																	
1,2-Dichloroethane (1,2-DCA)		0.09	< 0.81	< 0.20	< 0.81	< 0.20	4.9	1.2	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT
Carbon tetrachloride		0.54	< 1.3	< 0.20	< 1.3	< 0.20	0.88 J	0.14 J	0.63 J	0.10 J	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	6.0	0.89	< 1.4	< 0.20	< 1.4	< 0.20	3.1	0.45	< 1.4	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. NT = Not tested.
8. NA = Not applicable
9. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation, and Closure" dated October 2016.
10. Highlighted samples were collected to satisfy NAFNON.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-8 - Chemical Testing Results - Indoor Air (19-19A Morton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Location Name:	First Floor (continued)						Basement									
		Sample Name:	19MORT-1		19MORT-1		19MORT-1		19MORT-B		19MORT-B		19MORT-B		19MORT-B		19MORT-B	
		Sample Date:	3/2/12		2/27/25		12/19/25		7/2/07		4/4/08		8/18/08		1/13/09		9/3/09	
		EPMM (Vent) Status:	Vent Open		Vent Open		Vent Open		NA (pre-installation)		NA (pre-installation)		NA (pre-installation)		NA (pre-installation)		Vent Open	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values**																
Volatile Organic Compounds (VOCs)	TO-15																	
1,2-Dichloroethane (1,2-DCA)		0.09	NT	NT	NT	NT	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	0.73 J	0.18 J	< 0.81	< 0.20	< 0.81	< 0.20
Carbon tetrachloride		0.54	NT	NT	NT	NT	NT	NT	< 1.3	< 0.20	0.69 J	0.11 J	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20
Tetrachloroethylene (PCE)		1.4	< 1.4	< 0.20	0.136	0.020	<0.136	<0.020	< 1.4	< 0.20	0.68 J	0.10 J	< 1.4	< 0.20	8.8	1.3	< 1.4	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. NT = Not tested.
8. NA = Not applicable
9. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation, and Closure" dated October 2016.
10. Highlighted samples were collected to satisfy NAFNON.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-8 - Chemical Testing Results - Indoor Air (19-19A Morton Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Location Name:	Basement (continued)											
		Sample Name:	19MORT-B		19MORT-B		19MORT-B		19MORT-B		19MORT-B		19MORT-B	
		Sample Date:	1/29/10		12/7/10		4/10/11		3/2/12		2/27/25		12/19/25	
		EPMM (Vent) Status:	Vent Open		Vent Open		Vent Open		Vent Open		Vent Open		Vent Open	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values**												
Volatile Organic Compounds (VOCs)	TO-15													
1,2-Dichloroethane (1,2-DCA)		0.09	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Carbon tetrachloride		0.54	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	< 1.4	< 0.20	4.8	0.71	2.2	0.33	1.0 J	0.15 J	0.142	0.021	<0.136	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. EPMM = Exposure Pathway Mitigation Measure.
7. NT = Not tested.
8. NA = Not applicable
9. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation, and Closure" dated October 2016.
10. Highlighted samples were collected to satisfy NAFNON.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-9 - Chemical Testing Results - Indoor Air (162-164 Glen Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	Basement											
		Sample Name:	162GLEN-B		162GLEN-B		162-164-GLEN-B		162-164-GLEN-B		162-164-GLEN-B		162-164-GLEN-B	
		Sample Date:	8/13/07		1/28/10		11/19/10		2/4/11		2/6/26		3/10/26	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**												
Volatile Organic Compounds (VOCs)	TO-15													
1,1,1-Trichloroethane (TCA)		3	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.109	< 0.020	< 0.109	< 0.020
1,2-Dichloroethane (1,2-DCA)		0.09	2.5	0.61	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT
Carbon tetrachloride		0.54	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	3.7	0.54	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	0.203	0.030	0.441	0.065

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. NT= Not tested
7. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
8. Highlighted samples were collected to satisfy NAFNON.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-9 - Chemical Testing Results - Indoor Air (162-164 Glen Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:			**First Floor**										
Sample Name:			**162GLEN-1**		**162GLEN-1**		**162-164-GLEN-1**		**162-164-GLEN-1**		**162-164-GLEN-1**		**162-164-GLEN-1**	
Sample Date:			**8/13/07**		**1/28/10**		**11/19/10**		**2/4/11**		**2/6/26**		**3/10/26**	
Units:			**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m³)**												
Volatile Organic Compounds (VOCs)	TO-15													
1,1,1-Trichloroethane (TCA)		3	0.53 J	0.097 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.109	< 0.020	< 0.109	< 0.020
1,2-Dichloroethane (1,2-DCA)		0.09	0.65 J	0.16 J	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT
Carbon tetrachloride		0.54	0.63 J	0.10 J	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	2.8	0.41	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	0.156	0.023	0.298	0.044

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. NT= Not tested
7. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
8. Highlighted samples were collected to satisfy NAFNON.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-10 - Chemical Testing Results - Indoor Air (19 Tufts Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

			Sample Location:	Basement																	
			Sample Name:	IA-13		19Tufts-B		19Tufts-C (duplicate)		19Tufts-B		19Tufts-C (duplicate)		19Tufts-B		19Tufts-C (duplicate)		19Tufts-B		19Tufts-C (duplicate)	
			Sample Date:	3/24/05		3/23/06		3/23/06		6/29/06		6/29/06		10/10/06		10/10/06		12/15/06		12/15/06	
			Sampled By:	Shaw		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI	
			Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**																			
Volatile Organic Compounds (VOCs)	TO-15																				
Carbon tetrachloride		0.54		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	0.59 J	0.093 J	< 1.3	< 0.20
Chloroform		1.9		< 0.98	< 0.20	< 0.98	< 0.20	< 0.98	< 0.20	0.83 J	0.17 J	0.88 J	0.18 J	NT	NT	NT	NT	NT	NT	NT	NT
Chloromethane		NS		0.85	0.41	1.8 L	0.88 L	1.8 L	0.85 L	3.1	1.5	< 0.41	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT
Methylene Chloride		11		0.35 J	0.1 J	< 3.2 M	< 0.92 M	< 4.2 M	< 1.2 M	< 14 M	< 4 M	< 13 M	< 3.6 M	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4		3.2	0.47	7.5	1.1	6.6	0.98	4.1	0.60	3.8	0.56	15	2.2	6.8	1.0	2.5	0.37	1.4	0.2
Trichloroethylene (TCE)		0.4		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	2.1	0.39	1.6	0.30	6.4	1.2	6.4	1.2	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. NT= Not tested
7. NS= No standard established
8. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation, and Closure" dated October
9. Shaw Environmental collected samples on behalf of MassDEP, samples collected 3/24/05.
10. Highlighted samples were collected to satisfy NAFNON.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

L The reported result is estimated because the calculated relative percent difference (RPD) between a sample and the matrix duplicate was above the quality control limit specified in the Quality Assurance Project Plan (QAPP).

M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.

Table 6-10 - Chemical Testing Results - Indoor Air (19 Tufts Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

			Sample Location:	Basement (cont.)				First floor													
			Sample Name:	19Tufts-B		19Tufts-B		IA-14		19Tufts-1		19Tufts-1		19Tufts-1		19Tufts-1		19Tufts-1		19Tufts-1	
			Sample Date:	1/15/26		3/10/26		3/24/05		3/23/06		6/29/06		10/10/06		12/15/06		1/15/26		3/10/26	
			Sampled By:	GEI		GEI		Shaw		GEI		GEI		GEI		GEI		GEI		GEI	
			Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**																			
Volatile Organic Compounds (VOCs)	TO-15																				
Carbon tetrachloride		0.54		NT	NT	NT	NT	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	0.63 J	0.10 J	NT	NT	NT	NT
Chloroform		1.9		NT	NT	NT	NT	0.78 J	0.16 J	< 0.98	< 0.20	5.4	1.1	NT	NT	NT	NT	NT	NT	NT	NT
Chloromethane		NS		NT	NT	NT	NT	1.1	0.52	21.7 L	10.5 L	2.3	1.1	NT	NT	NT	NT	NT	NT	NT	NT
Methylene Chloride		11		NT	NT	NT	NT	0.34 J	0.099 J	< 4.2 M	< 1.2 M	< 14 M	< 4.1 M	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4		3.86	0.569	1.86	0.274	0.95 J	0.14 J	1.2 J	0.18 J	2.4	0.35	< 1.4	< 0.20	0.60 J	0.089 J	1.11	0.164	0.454	0.067
Trichloroethylene (TCE)		0.4		< 0.107	< 0.020	< 0.107	<0.020	< 1.1	< 0.20	< 1.1	< 0.20	1.7	0.31	< 1.1	< 0.20	< 1.1	< 0.20	< 0.107	< 0.020	< 0.107	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. NT= Not tested
7. NS= No standard established
8. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation, and Closure" dated October
9. Shaw Environmental collected samples on behalf of MassDEP, samples collected 3/24/05.
10. Highlighted samples were collected to satisfy NAFNON.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

L The reported result is estimated because the calculated relative percent difference (RPD) between a sample and the matrix duplicate was above the quality control limit specified in the Quality Assurance Project Plan (QAPP).

M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.

Table 6-11 - Chemical Testing Results - Indoor Air (25 Tufts Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:			Basement													
Sample Name:			IA-4		25TUFTS-B		25TUFTS-B		25TUFTS-B		25 TUFTS-B		25 TUFTS-B		25 TUFTS-B	
Sample Date:			2/23/05		3/23/06		8/1/06		10/2/06		12/15/06		1/20/26		3/6/26	
Sampled By:			Shaw		GEI		GEI		GEI		GEI		GEI		GEI	
Units:			µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m^3)**														
Volatile Organic Compounds (VOCs)	TO-15															
Carbon tetrachloride		0.54	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.56 J	0.089 J	NT	NT	NT	NT
Chloroform		1.9	< 0.98	< 0.20	< 0.98	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chloromethane		NS	0.74	0.36	1.1 L	0.52 L	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methylene Chloride		11	0.49 J	0.14 J	< 1.6 M	< 0.47 M	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	1.6	0.23	3.2	0.47	3.9	0.57	4.2	0.62	6.6	0.97	0.142	0.021	0.448	0.066
Trichloroethylene (TCE)		0.4	<1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.107	< 0.020	< 0.107	< 0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. NT= Not tested
7. NS= No standard established
8. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
9. Shaw Environmental collected samples on behalf of MassDEP, samples collected 2/23/05.
10. Highlighted samples were collected to satisfy NAFNON.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

L The reported result is estimated because the calculated relative percent difference (RPD) between a sample and the matrix duplicate was above the quality control limit specified in the Quality Assurance Project Plan (QAPP).

M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.

Table 6-11 - Chemical Testing Results - Indoor Air (25 Tufts Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	**First Floor**													
		Sample Name:	**IA-3**		**25TUFTS-1**		**25TUFTS-1**		**25TUFTS-1**		**25 TUFTS-1**		**25 TUFTS-1**		**25 TUFTS-1**	
		Sample Date:	**2/23/05**		**3/23/06**		**8/1/06**		**10/2/06**		**12/15/06**		**1/20/26**		**3/6/26**	
		Sampled By:	**Shaw**		**GEI**		**GEI**		**GEI**		**GEI**		**GEI**		**GEI**	
		Units:	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**
Analyte	**Method**	**MassDEP Residential Threshold Values (µg/m³)**														
Volatile Organic Compounds (VOCs)	TO-15															
Carbon tetrachloride		0.54	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.63 J	0.10 J	NT	NT	NT	NT
Chloroform		1.9	2.0	0.40	< 0.98	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chloromethane		NS	0.95	0.46	1.1 L	0.54 L	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methylene Chloride		11	0.35 J	0.10 J	< 1.9 M	< 0.54 M	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	< 1.4	< 0.20	1.7	0.25	2	0.29	< 1.4	< 0.20	1.7	0.25	0.210	0.031	0.353	0.052
Trichloroethylene (TCE)		0.4	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.107	< 0.020	0.113	0.021

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. NT= Not tested
7. NS= No standard established
8. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
9. Shaw Environmental collected samples on behalf of MassDEP, samples collected 2/23/05.
10. Highlighted samples were collected to satisfy NAFNON.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

L The reported result is estimated because the calculated relative percent difference (RPD) between a sample and the matrix duplicate was above the quality control limit specified in the Quality Assurance Project Plan (QAPP).

M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.

Table 6-12a - Chemical Testing Results - Indoor Air (97 Franklin Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:			Basement															
Sample Name:			97FRAN-B		97FRAN-B		97FRAN-B		97FRAN-B		97FRAN-B		97FRAN-B		97FRAN-B		97FRAN-B	
Sample Date:			9/29/07		2/21/08		7/24/08		1/14/09		3/8/10		5/24/24		2/19/25		2/10/26	
Units:			µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m³)**																
Volatile Organic Compounds (VOCs)	TO-15																	
1,1,1-Trichloroethane (TCA)		3	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	0.125	0.023	0.240	0.044	<0.109	<0.020
1,1-Dichloroethane (1,1-DCA)		0.8	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20	<0.081	<0.020	0.085	0.021	<0.081	<0.020
1,2-Dichloroethane (1,2-DCA)		0.09	<0.81	<0.20	<0.81	<0.20	0.81	0.20	<0.81	<0.20	<0.81	<0.20	NT	NT	NT	NT	NT	NT
Carbon tetrachloride		0.54	<1.3	<0.20	<1.3	<0.20	0.69 J	0.11 J	0.75 J	0.12 J	< 1.3	<0.20	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	<1.4	<0.20	1.0 J	0.15 J	1.3 J	0.19 J	0.81 J	0.12 J	1.6	0.23	1.72	0.254	0.624	0.092	0.278	0.041
Trichloroethylene (TCE)		0.4	<1.4	<0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20	0.489	0.091	1.10	0.204	<0.107	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. NT = Not tested
6. MassDEP = Massachusetts Department of Environmental Protection
7. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
8. Highlighted samples indicate most recent sampling round.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-12a - Chemical Testing Results - Indoor Air (97 Franklin Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	First Floor																Second Floor			
		Sample Name:	97FRAN-1		97FRAN-1		97FRAN-1		97FRAN-1		97FRAN-1		97FRAN-1		97FRAN-1		97FRAN-1		97FRAN-2		97FRAN-2	
		Sample Date:	9/29/07		2/21/08		7/24/08		1/14/09		3/8/10		5/24/24		2/19/25		2/10/26		5/24/24		2/19/25	
		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m³)**																				
Volatile Organic Compounds (VOCs)	TO-15																					
1,1,1-Trichloroethane (TCA)		3	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020
1,1-Dichloroethane (1,1-DCA)		0.8	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20	<0.081	<0.020	<0.081	<0.020	<0.081	<0.020	<0.081	<0.020	<0.081	<0.020
1,2-Dichloroethane (1,2-DCA)		0.09	<0.81	<0.20	0.69 J	0.17 J	11	2.6	<0.81	<0.20	<0.81	<0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Carbon tetrachloride		0.54	<1.3	<0.20	< 1.3	<0.20	0.69 J	0.11 J	0.63 J	0.10 J	<1.3	<0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	<1.4	<0.20	<1.4	<0.20	<1.4	<0.20	<1.4	<0.20	1.0 J	0.15 J	0.522	0.077	0.190	0.028	0.149	0.022	<0.136	<0.020	0.176	0.026
Trichloroethylene (TCE)		0.4	<1.4	<0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20	0.167	0.031	0.199	0.037	<0.107	<0.020	0.150	<0.028	0.220	0.041

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. NT = Not tested
6. MassDEP = Massachusetts Department of Environmental Protection
7. Residential Threshold Values for indoor air taken from the MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
8. Highlighted samples indicate most recent sampling round.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 6-12b - Chemical Testing Results Sub-Slab Soil Vapor (97 Franklin Street)
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	97 Franklin Street															
		Sample Name:	97FRANK-SS1		97FRANK-SS2		97FRANK-SS1		97FRANK-SS2		97FRANK-SS1		97FRANK-SS2		97FRANK-SS1		97FRANK-SS2	
		Sample Date:	6/30/2007		6/30/2007		5/24/2024		5/24/2024		2/19/2025		2/19/2025		2/10/26		2/10/2026	
		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	Method	MassDEP Residential Sub-Slab Screening Values (µg/m³)																
Volatile Organic Compounds (VOCs)	TO-15																	
Carbon tetrachloride		38	0.82 J	0.13 J	< 0.53	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,1-Dichloroethane (1,1-DCA)		56	NT	NT	NT	NT	<0.081	<0.020	<0.081	<0.020	<0.081	<0.020	<0.081	<0.020	0.219	0.054	<0.081	<0.020
Tetrachloroethylene (PCE)		98	34	5.0	86.8	12.8	1.31	0.193	6.16	0.909	21.0	3.10	1.04	0.153	0.278	0.041	0.753	0.111
1,1,1-Trichloroethane (TCA)		210	< 1.1	< 0.20	1.5	0.27	<0.109	<0.020	0.136	0.025	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020
Trichloroethylene (TCE)		28	<1.1	<0.20	<1.1	<0.20	<0.107	<0.020	0.15	0.028	0.113	0.021	0.269	0.05	<0.107	<0.020	<0.107	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. MassDEP = Massachusetts Department of Environmental Protection
6. NT= Not tested
7. Residential Sub-Slab Soil Gas Screening Values taken from MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
8. Highlighted samples indicate most recent sampling round.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 7-1 - Soil Boring and Monitoring Well Summary
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Location Name	Location Type	Installed By	Completion Date	Method	Well Diameter (inches)	Well Screen Interval (ft bgs)	Ground Surface Elevation (ft NAVD)	Elevation of Measuring Point (ft NAVD)	Screened Strata	Total Depth (ft)	Comment	Report
MW-1	monitoring well	unknown	unknown	unknown	1	unknown	26.2	25.90	unknown	unknown	Destroyed or Decommissioned No logs provided	Phase I ISI & Tier Classification, June 2006
MW-2	monitoring well	unknown	unknown	unknown	1	unknown	25.5	25.38	unknown	unknown	Destroyed or Decommissioned No logs provided	Phase I ISI & Tier Classification, June 2006
MW-3	monitoring well	unknown	unknown	unknown	1	unknown	25.4	25.31	unknown	unknown	Destroyed or Decommissioned No logs provided	Phase I ISI & Tier Classification, June 2006
MW-CS-1	monitoring well	unknown	unknown	unknown	2	unknown	41.4	unknown	unknown	unknown	Temporary	unknown
SH-1	monitoring well	SHA	6/21/02	Geoprobe	1	9 - 14	29.7	29.55	sand	14	Decommissioned	Phase I ISI & Tier Classification, June 2006
SH-2	monitoring well	SHA	6/21/02	Geoprobe	1	7 - 14	29.7	29.64	sand	14	Decommissioned	Phase I ISI & Tier Classification, June 2006
SH-3	monitoring well	SHA	6/21/2002	Geoprobe	1	8 - 13	29.8	29.66	sand	13	Decommissioned	Phase I ISI & Tier Classification, June 2006
SH-4	monitoring well	SHA	6/21/2002	Geoprobe	1	11 - 16	29.8	29.63	sand	16	Decommissioned	Phase I ISI & Tier Classification, June 2006
SH-5	monitoring well	SHA	6/21/2002	Geoprobe	1	8 - 13	29.7	29.63	sand and gravel	13	Decommissioned	Phase I ISI & Tier Classification, June 2006
SH-B1	soil boring only	SHA	6/21/2002	Geoprobe	NA	NA	unknown	NA	NA	15		Phase I ISI & Tier Classification, June 2006
SH-B2	soil boring only	SHA	6/21/2002	Geoprobe	NA	NA	unknown	NA	NA	12		Phase I ISI & Tier Classification, June 2006
SH-MW1	monitoring well	SHA	7/3/2002	HSA/Rock core	2	10 - 30	24.5	24.02	silt, clay and bedrock	30	Destroyed	Phase I ISI & Tier Classification, June 2006
SH-MW2	monitoring well	SHA	7/3/2002	HSA	2	10 - 25	24.7	24.27	silt and clay	25	Destroyed	Phase I ISI & Tier Classification, June 2006
SH-MW3	monitoring well	SHA	7/3/2002	HSA	2	10 - 24	22.9	22.31	silt and clay	24	Destroyed	Phase I ISI & Tier Classification, June 2006
GEO-1	monitoring well	GeoInsight	8/12/2004	HSA	2	5 - 20	26.1	25.88	sand	20		Phase I ISI & Tier Classification, June 2006
GEO-2	monitoring well	GeoInsight	8/12/2004	HSA	2	5 - 20	27.1	26.54	sand	20		Phase I ISI & Tier Classification, June 2006
Soil Boring-1	soil boring only	GeoInsight	8/12/2004	HSA	NA	NA	unknown	NA	NA	11		Phase I ISI & Tier Classification, June 2006
Soil Boring-2	soil boring only	GeoInsight	8/12/2004	HSA	NA	NA	unknown	NA	NA	10		Phase I ISI & Tier Classification, June 2006
GEO-3	monitoring well	GeoInsight	8/13/2004	HSA	2	5 - 20	25.9	25.64	sand	20	Destroyed	Phase I ISI & Tier Classification, June 2006
GEO-4	monitoring well	GeoInsight	8/13/2004	HSA	2	4 - 19	22.1	21.69	sand	19		Phase I ISI & Tier Classification, June 2006
GEO-6	monitoring well	GeoInsight	8/13/2004	HSA	2	5 - 20	18.1	17.62	sand	20		Phase I ISI & Tier Classification, June 2006
GEO-5	monitoring well	GeoInsight	8/16/2004	HSA	2	5 - 20	20.5	20.14	sand, silt and clay	20		Phase I ISI & Tier Classification, June 2006
GEO-7	soil boring only	GeoInsight	8/16/2004	HSA	NA	NA	unknown	NA	NA	13		Phase I ISI & Tier Classification, June 2006
MW101	monitoring well	GEI	5/1/2006	HSA	2	9 - 19	27.0	26.75	sand and gravel	19	Destroyed or Decommissioned	IRA Status Report No. 2 and Plan Modification No. 3, Nov 2006
MW102	monitoring well	GEI	5/1/2006	HSA	2	6 - 16	19.2	18.89	sand, gravel and clay	16		IRA Status Report No. 2 and Plan Modification No. 3, Nov 2006
MW103	monitoring well	GEI	5/1/2006	HSA	2	6 - 16	19.8	19.47	sand, gravel and silt	16		IRA Status Report No. 2 and Plan Modification No. 3, Nov 2006
MW105	monitoring well	GEI	5/2/2006	HSA	2	19 - 29	39.6	38.84	sand, gravel and silt	29	Destroyed	IRA Status Report No. 2 and Plan Modification No. 3, Nov 2006
MW104	monitoring well	GEI	5/24/2006	Geoprobe	1	5 - 15	17.9	17.67	sand, gravel and silt	15	Destroyed	IRA Status Report No. 2 and Plan Modification No. 3, Nov 2006
MW106	monitoring well	GEI	1/5/2007	Geoprobe	2	9 - 19	26.9	26.33	sand, gravel, silt	21		Phase II-III
MW107	monitoring well	GEI	1/5/2007	Geoprobe	2	2 - 12	15.1	14.63	silt	21		Phase II-III
MW108	monitoring well	GEI	1/5/2007	Geoprobe	2	2 - 12	13.1	12.74	sand, gravel, and silt	12		Phase II-III
MW109	monitoring well	GEI	1/5/2007	Geoprobe	2	3 - 13	24.7	24.12	sand and gravel	15.25		Phase II-III
MW110	monitoring well	GEI	1/8/2007	Geoprobe	2	3 - 13	16.0	15.58	silty sand, silt	16	Observed perched water table	Phase II-III
MW111	monitoring well	GEI	1/8/2007	Geoprobe	2	4 - 14	19.4	18.95	sand, gravel, and silt	16	Destroyed	Phase II-III
MW112	monitoring well	GEI	1/8/2007	Geoprobe	2	3 - 10	18.6	18.16	silty sand, silt	10	Destroyed	Phase II-III
MW113	monitoring well	GEI	2/15/2007	Geoprobe	2	10 - 20	26.6	26.16	sand, gravel, and silt	20	Destroyed	Phase II-III
MW114	monitoring well	GEI	2/15/2007	Geoprobe	2	7 - 17	29.8	29.43	sand, gravel, and silt	17	Destroyed	Phase II-III
MW115	monitoring well	GEI	2/15/2007	HSA	2	7-17	27.3	27.15	silt	17	Decommissioned	Phase II-III
MW115R	monitoring well	GEI	2/21/2007	HSA	2	10 - 25	27.3	27.15	till/silt	25		Phase II-III
MW112A	monitoring well	GEI	3/10/2007	HSA	2	4 - 19	18.1	17.78	sand, gravel, and silt	19		Phase II-III
MW116	monitoring well	GEI	3/10/2007	HSA/Air Rotary	2	5 - 15	13.0	13.45	bedrock	15		Phase II-III
MW DEP A	piezometer	DEP	5/30/2007	Hand Tools	1	NA	unknown	NA	unknown	unknown	Temporary	unknown
MW DEP B	piezometer	DEP	5/30/2007	Hand Tools	1	NA	unknown	NA	unknown	unknown	Temporary	unknown
MW DEP C	piezometer	DEP	5/30/2007	Hand Tools	1	NA	unknown	NA	unknown	unknown	Temporary	unknown
MW117D	monitoring well	GEI	6/20/2007	HSA/Drive & Wash	2	60 - 70	22.1	21.78	bedrock	70		Phase II-III
MW117S	monitoring well	GEI	6/20/2007	HSA	2	5 - 20	22.20	21.94	fill, silt	20		Phase II-III
MW117T	monitoring well	GEI	6/22/2007	Drive&Wash/Rock Core	2	35 - 45	22.2	21.87	till	45		Phase II-III
MW118T	monitoring well	GEI	6/28/2007	HSA/Drive & Wash	2	39.5 - 49.5	15.7	15.30	till	49.5		Phase II-III
MW118D	monitoring well	GEI	7/2/2007	Drive&Wash/Rock Core	2	70 - 80	15.6	15.15	bedrock	80		Phase II-III
MW118S	monitoring well	GEI	7/2/2007	HSA	2	3 - 14	15.7	15.52	fill/silt	14		Phase II-III
MW202	monitoring well	GEI	7/10/2007	Geoprobe	2	10.5 - 20.5	28.1	27.82	fill, sand and gravel	20.5		Phase II-III
MW201	monitoring well	GEI	7/11/2007	Geoprobe	2	11 - 21	27.9	27.51	sand and gravel	21		Phase II-III
MW203	monitoring well	GEI	7/11/2007	Geoprobe	2	6 - 18	22.1	21.80	till	18	Destroyed	Phase II-III
MW119S	monitoring well	GEI	8/8/2007	HSA	2	5 - 20	12.1	11.74	fill/silt	20		Phase II-III
MW119T	monitoring well	GEI	8/8/2007	Drive & Wash	2	42 - 47	12.1	11.67	till	48.5		Phase II-III
MW120S	monitoring well	GEI	8/8/2007	HSA	2	5 - 20	12.9	12.54	fill, silt	20		Phase II-III
MW120D	monitoring well	GEI	8/9/2007	Drive & Wash	2	28 - 38	13.1	12.45	bedrock	38		Phase II-III

Table 7-1 - Soil Boring and Monitoring Well Summary
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Location Name	Location Type	Installed By	Completion Date	Method	Well Diameter (inches)	Well Screen Interval (ft bgs)	Ground Surface Elevation (ft NAVD)	Elevation of Measuring Point (ft NAVD)	Screened Strata	Total Depth (ft)	Comment	Report
MW121S	monitoring well	GEI	10/10/2007	HSA	2	5 - 20	13.0	12.44	fill	20		Phase II-III
MW121D	monitoring well	GEI	10/12/2007	Drive & Wash/Rock Core	2	32.1 - 47.1	13.1	12.81	bedrock	48		Phase II-III
MW122	monitoring well	GEI	1/24/2008	Drive & Wash	2	4 - 16	16.4	16.42	silt	16		Phase II-III
EB-1	monitoring well	EBI	5/9/2012	Geoprobe	NA	NA	unknown	NA	unknown	12	Temporary Well	EBI Phase I 90 Washington St RTN 3-31102
EB-2	soil boring only	EBI	5/9/2012	Geoprobe	NA	NA	unknown	NA	NA	5		EBI Phase I 90 Washington St RTN 3-31102
EB-3	soil boring only	EBI	5/9/2012	Geoprobe	NA	NA	unknown	NA	NA	15		EBI Phase I 90 Washington St RTN 3-31102
EB-4	monitoring well	EBI	5/9/2012	Geoprobe	NA	NA	unknown	NA	unknown	16	Temporary Well	EBI Phase I 90 Washington St RTN 3-31102
EB-5	soil boring only	EBI	5/9/2012	Geoprobe	NA	NA	unknown	NA	NA	12		EBI Phase I 90 Washington St RTN 3-31102
KE-117	monitoring well	Kleinfelder	8/23/2012	HSA	2	5-20	16.20	NM	sand, clay, silt	20	Destroyed or Decommissioned	Phase V SR No 6 and RMR No 21
KE-116	monitoring well	Kleinfelder	9/10/2012	Mud Rotary	2	15-30	28.30	NM	sand, gravel and clay	32	Destroyed or Decommissioned	Phase V SR No 6 and RMR No 21
KE-115	monitoring well	Kleinfelder	9/11/2012	Mud Rotary	2	15-30	28.20	NM	sand, gravel and clay	30	Destroyed or Decommissioned	Phase V SR No 6 and RMR No 21
KE-114	monitoring well	Kleinfelder	9/12/2012	Mud Rotary	2	15-30	27.70	NM	sand, gravel and clay	30	Destroyed or Decommissioned	Phase V SR No 6 and RMR No 21
MW-5R	monitoring well	Kleinfelder	9/13/2012	Mud Rotary	2	15-30	26.50	NM	sand, gravel and clay	30	Destroyed or Decommissioned	Phase V SR No 6 and RMR No 21
EB-202	soil boring only	EBI	10/16/2012	Geoprobe	NA	NA	unknown	NA	NA	5.5		EBI Phase I 90 Washington St RTN 3-31102
EB-203	soil boring only	EBI	10/16/2012	Geoprobe	NA	NA	unknown	NA	NA	8		EBI Phase I 90 Washington St RTN 3-31102
EB-204	soil boring only	EBI	10/16/2012	Geoprobe	NA	NA	unknown	NA	NA	8		EBI Phase I 90 Washington St RTN 3-31102
EB-206	soil boring only	EBI	10/16/2012	Geoprobe	NA	NA	unknown	NA	NA	8		EBI Phase I 90 Washington St RTN 3-31102
EB-207	soil boring only	EBI	10/16/2012	Geoprobe	NA	NA	unknown	NA	NA	12		EBI Phase I 90 Washington St RTN 3-31102
TRC-1	monitoring well	TRC	1/20/2014	Geoprobe	2	6.5-16.5	NM	NM	sand	19	Destroyed	TRC Phase II ESA for 163 Glen Street
TRC-2	monitoring well	TRC	1/20/2014	Geoprobe	2	10-20	NM	NM	sand	20	Destroyed	TRC Phase II ESA for 163 Glen Street
TRC-3	monitoring well	TRC	1/20/2014	Geoprobe	2	8-18	NM	NM	sand and silt	20	Destroyed	TRC Phase II ESA for 163 Glen Street
TRC-4	monitoring well	TRC	1/20/2014	Geoprobe	2	10-20	NM	NM	sand, silt and clay	20	Destroyed	TRC Phase II ESA for 163 Glen Street
EB-301	soil boring only	EBI	2/18/2014	Geoprobe	NA	NA	unknown	NA	NA	4		McPhail Phase II CSA, Phase III RTN 3-31102
EB-302	soil boring only	EBI	2/18/2014	Geoprobe	NA	NA	unknown	NA	NA	4		McPhail Phase II CSA, Phase III RTN 3-31102
EB-303	soil boring only	EBI	2/18/2014	Geoprobe	NA	NA	unknown	NA	NA	12		McPhail Phase II CSA, Phase III RTN 3-31102
EB-304	soil boring only	EBI	2/18/2014	Geoprobe	NA	NA	unknown	NA	NA	10		McPhail Phase II CSA, Phase III RTN 3-31102
EB-305	soil boring only	EBI	2/18/2014	Geoprobe	NA	NA	unknown	NA	NA	4		McPhail Phase II CSA, Phase III RTN 3-31102
EB-306	soil boring only	EBI	2/18/2014	Geoprobe	NA	NA	unknown	NA	NA	14		McPhail Phase II CSA, Phase III RTN 3-31102
EB-307	soil boring only	EBI	2/18/2014	Geoprobe	NA	NA	unknown	NA	NA	15		McPhail Phase II CSA, Phase III RTN 3-31102
EB-308	soil boring only	EBI	2/18/2014	Geoprobe	NA	NA	unknown	NA	NA	12		McPhail Phase II CSA, Phase III RTN 3-31102
EB-309	soil boring only	EBI	2/18/2014	Geoprobe	NA	NA	unknown	NA	NA	10		McPhail Phase II CSA, Phase III RTN 3-31102
EB-310	soil boring only	EBI	2/18/2014	Geoprobe	NA	NA	unknown	NA	NA	4		McPhail Phase II CSA, Phase III RTN 3-31102
EB-311	soil boring only	EBI	2/18/2014	Geoprobe	NA	NA	unknown	NA	NA	4		McPhail Phase II CSA, Phase III RTN 3-31102
EB-312	soil boring only	EBI	2/18/2014	Geoprobe	NA	NA	unknown	NA	NA	3		McPhail Phase II CSA, Phase III RTN 3-31102
TP-01	test pit	EBI	2/19/2014	Excavator	NA	NA	unknown	NA	NA	8.5		McPhail Phase II CSA, Phase III RTN 3-31102
TP-02	test pit	EBI	2/19/2014	Excavator	NA	NA	unknown	NA	NA	9		McPhail Phase II CSA, Phase III RTN 3-31102
TP-03	test pit	EBI	2/19/2014	Excavator	NA	NA	unknown	NA	NA	9		McPhail Phase II CSA, Phase III RTN 3-31102
TP-04	test pit	EBI	2/19/2014	Excavator	NA	NA	unknown	NA	NA	7		McPhail Phase II CSA, Phase III RTN 3-31102
TP-08	test pit	EBI	2/19/2014	Excavator	NA	NA	unknown	NA	NA	5		McPhail Phase II CSA, Phase III RTN 3-31102
KE-202D	monitoring well	Kleinfelder	3/25/2014	Mud Rotary	2	25-35	19.49	NM	gravel and clay	35	Destroyed or Decommissioned	Phase V SR No 6 and RMR No 21
KE-202S	monitoring well	Kleinfelder	3/25/2014	Mud Rotary	2	5-20	19.46	NM	sand	20	Destroyed or Decommissioned	Phase V SR No 6 and RMR No 21
KE-211	soil boring only	Kleinfelder	3/26/2014	HSA	NA	NA	22.53	NM	NA	30		Phase V SR No 6 and RMR No 21
KE-209	monitoring well	Kleinfelder	3/28/2014	HSA	2	9-19	23.69	NM	sand, gravel, and silt	19	Destroyed or Decommissioned	Phase V SR No 6 and RMR No 21
KE-207	monitoring well	Kleinfelder	3/31/2014	HSA	2	8-18	27.96	NM	clay and sand	18.5	Destroyed or Decommissioned	Phase V SR No 6 and RMR No 21
KE-205	monitoring well	Kleinfelder	4/1/2014	HSA	2	9-19.5	28.53	NM	clay and silt	19.5	Destroyed or Decommissioned	Phase V SR No 6 and RMR No 21
KE-204	monitoring well	Kleinfelder	4/2/2014	HSA	2	15-25	27.42	NM	clay and sand	25	Destroyed or Decommissioned	Phase V SR No 6 and RMR No 21
KE-206	monitoring well	Kleinfelder	4/4/2014	HSA	2	10-21	26.83	NM	clay and sand	21.8	Destroyed or Decommissioned	Phase V SR No 6 and RMR No 21
KE-208	monitoring well	Kleinfelder	4/7/2014	HSA	2	4-14	25.65	NM	sand, silt and clay	14	Destroyed or Decommissioned	Phase V SR No 6 and RMR No 21
KE-210	monitoring well	Kleinfelder	4/8/2014	HSA	2	8.5-18.5	24.53	NM	sand, gravel and clay	18.5	Destroyed or Decommissioned	Phase V SR No 6 and RMR No 21
EB-501	soil boring only	EBI	5/7/2014	unknown	NA	NA	unknown	NA	NA	unknown	Boring logs missing from report	McPhail Phase II CSA, Phase III RTN 3-31102
EB-502	soil boring only	EBI	5/7/2014	unknown	NA	NA	unknown	NA	NA	unknown	Boring logs missing from report	McPhail Phase II CSA, Phase III RTN 3-31102
EB-503	soil boring only	EBI	5/7/2014	unknown	NA	NA	unknown	NA	NA	unknown	Boring logs missing from report	McPhail Phase II CSA, Phase III RTN 3-31102
EB-504	soil boring only	EBI	5/7/2014	unknown	NA	NA	unknown	NA	NA	unknown	Boring logs missing from report	McPhail Phase II CSA, Phase III RTN 3-31102
EB-505	soil boring only	EBI	5/7/2014	unknown	NA	NA	unknown	NA	NA	unknown	Boring logs missing from report	McPhail Phase II CSA, Phase III RTN 3-31102
EB-506	soil boring only	EBI	5/7/2014	unknown	NA	NA	unknown	NA	NA	unknown	Boring logs missing from report	McPhail Phase II CSA, Phase III RTN 3-31102
EB-507	soil boring only	EBI	5/7/2014	unknown	NA	NA	unknown	NA	NA	unknown	Boring logs missing from report	McPhail Phase II CSA, Phase III RTN 3-31102
EB-508	soil boring only	EBI	5/7/2014	unknown	NA	NA	unknown	NA	NA	unknown	Boring logs missing from report	McPhail Phase II CSA, Phase III RTN 3-31102
IES-1	monitoring well	IES	4/6/2017	Geoprobe	unknown	unknown	unknown	unknown	unknown	15	Destroyed	IES PSS for 103 Washington Street RTN 3-34310
IES-2	monitoring well	IES	4/6/2017	Geoprobe	unknown	unknown	unknown	unknown	unknown	15	Destroyed	IES PSS for 103 Washington Street RTN 3-34310
IES-3	soil boring only	IES	4/6/2017	Geoprobe	NA	NA	unknown	NA	unknown	15	Destroyed	IES PSS for 103 Washington Street RTN 3-34310

Table 7-1 - Soil Boring and Monitoring Well Summary
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Location Name	Location Type	Installed By	Completion Date	Method	Well Diameter (inches)	Well Screen Interval (ft bgs)	Ground Surface Elevation (ft NAVD)	Elevation of Measuring Point (ft NAVD)	Screened Strata	Total Depth (ft)	Comment	Report
IES-4	monitoring well	IES	4/6/2017	Geoprobe	unknown	unknown	unknown	unknown	unknown	15	Destroyed	IES PSS for 103 Washington Street RTN 3-34310
IES-5	monitoring well	IES	4/6/2017	Geoprobe	unknown	unknown	unknown	unknown	unknown	15	Destroyed	IES PSS for 103 Washington Street RTN 3-34310
IES-6	monitoring well	IES	4/6/2017	Geoprobe	unknown	unknown	unknown	unknown	unknown	15	Destroyed	IES PSS for 103 Washington Street RTN 3-34310
GLC-Wash-MW-2	monitoring well	GLXC	8/6/2020	Geoprobe	1	20-30	unknown	NA	unknown	30	Destroyed or Decommissioned	RAM Status Report No. 3 for RTN 3-34742
GLC-Wash-MW-4	monitoring well	GLXC	8/18/2020	Geoprobe	1	20-30	unknown	NA	unknown	30	Destroyed or Decommissioned	RAM Status Report No. 3 for RTN 3-34742
WSPH-MW-12	monitoring well	TRC	10/14/2022	HSA	2	8-18	unknown	NA	sand and clay	20		Phase II CSA RTN 3-35997
WSPH-MW-13	monitoring well	TRC	10/17/2022	HSA	2	8-18	unknown	NA	sand and clay	17		Phase II CSA RTN 3-35997
MW104R	monitoring well	GEI	5/16/2022	Drive & Wash	2	5-15	16.06	15.82	sand, gravel and silt	20		Phase V SR No 22 and RMR No 37
B101	soil boring only	GEI	2/12/2024	Geoprobe	NA	NA	NM	NA	NA	5		Phase V SR No 26 and RMR No 41
B102	soil boring only	GEI	2/12/2024	Geoprobe	NA	NA	NM	NA	NA	5		Phase V SR No 26 and RMR No 41
B103	soil boring only	GEI	2/12/2024	Geoprobe	NA	NA	NM	NA	NA	5		Phase V SR No 26 and RMR No 41
B104	soil boring only	GEI	2/12/2024	Geoprobe	NA	NA	NM	NA	NA	5		Phase V SR No 26 and RMR No 41
B105	soil boring only	GEI	2/12/2024	Geoprobe	NA	NA	NM	NA	NA	5		Phase V SR No 26 and RMR No 41
MW203R	monitoring well	GEI	3/18/2024	HSA	2	13-23	25.15	24.97	sand, gravel and silt	25		Phase V SR No 26 and RMR No 41
SH-MW2R	monitoring well	GEI	3/18/2024	HSA	2	10-23	24.86	24.56	sand, gravel and silt	23		Phase V SR No 26 and RMR No 41
MW111R	monitoring well	GEI	10/31/2024	Drive and Wash	2	5-15	18.54	18.22	till	15		Phase V SR No 27 and RMR No 42
MW301	monitoring well	GEI	1/3/2025	Geoprobe	2	5-15	13.74	13.24	clay and sand	15		Phase V SR No 28 and RMR No 43
ATC-4	soil boring only	Atlas	3/14/2025	Geoprobe	NA	NA	unknown	NA	NA	10		2025 Tufts Street Reconstruction URAM
ATC-5	soil boring only	Atlas	3/14/2025	Geoprobe	NA	NA	unknown	NA	NA	10		2025 Tufts Street Reconstruction URAM
ATC-6	soil boring only	Atlas	3/14/2025	Geoprobe	NA	NA	unknown	NA	NA	10		2025 Tufts Street Reconstruction URAM
ATC-7	soil boring only	Atlas	3/14/2025	Geoprobe	NA	NA	unknown	NA	NA	10		2025 Tufts Street Reconstruction URAM
ATC-8	soil boring only	Atlas	3/14/2025	Geoprobe	NA	NA	unknown	NA	NA	10		2025 Tufts Street Reconstruction URAM
ATC-1	soil boring only	Atlas	3/15/2025	Geoprobe	NA	NA	unknown	NA	NA	10		2025 Tufts Street Reconstruction URAM
ATC-2	soil boring only	Atlas	3/15/2025	Geoprobe	NA	NA	unknown	NA	NA	10		2025 Tufts Street Reconstruction URAM
ATC-3	soil boring only	Atlas	3/15/2025	Geoprobe	NA	NA	unknown	NA	NA	10		2025 Tufts Street Reconstruction URAM
MW401D	monitoring well	GEI	9/30/2025	Drive and Wash	2	34-44	16.35	16.16	till	45		Phase V SR No 29 and RMR No 44
MW401S	monitoring well	GEI	10/3/2025	Drive and Wash	2	10-20	16.39	16.05	clay and sand	20		Phase V SR No 29 and RMR No 44
MW402	monitoring well	GEI	10/6/2025	Drive and Wash	2	20-30	19.36	19.05	bedrock	30		Phase V SR No 29 and RMR No 44
MW403	monitoring well	GEI	10/14/2025	Drive and Wash	2	80-90	16.81	16.31	bedrock	90		Phase V SR No 29 and RMR No 44
MW404	monitoring well	GEI	10/22/2025	Drive and Wash	2	72.5-82.5	24.85	24.49	bedrock	90		Phase V SR No 29 and RMR No 44
MW405	monitoring well	GEI	10/23/2025	Geoprobe	2	8-18	15.46	15.12	clay and sand	20		Phase V SR No 29 and RMR No 44
MW406	monitoring well	GEI	10/24/2025	Geoprobe	2	4-14	13.47	13.19	sand and silt	14		Phase V SR No 29 and RMR No 44
MW407	monitoring well	GEI	12/30/2025	Geoprobe	2	4.45-14.45	26.12	25.89	sand	18		Phase V SR No 29 and RMR No 44

General Notes:

1. Information on locations installed by GeoInsight and SHA based on boring and monitoring well logs prepared by GeoInsight and SHA, except for well diameters, which were measured in the field.
2. ft = feet.
3. bgs = below ground surface.
4. NAVD = North American Vertical Datum of 1988.
5. SHA = Sanborn Head & Associates, Inc.
6. GEO = GeoInsight
7. NA = Not Applicable.
8. NM = Not Measured.
9. Monitoring wells MW1 through MW3 were installed prior to SHAs investigation, which was conducted in 2002.
10. HSA = Hollow-stem auger.
11. DEP = Massachusetts Department of Environmental Protection.
12. TRC = TRC Companies
13. ATC= Atlas and Affiliates

Table 7-2. Chemical Testing Results - Soil (MW403 and MW404)
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				Boring:	**MW403**			**MW404**		
				Sample ID:	**MW403-(8-9')**	**MW403-(13-14')**	**MW403-(16-17')**	**MW404-(6-7')**	**MW404-(7-8')**	**MW404-(10')**
				Lab Package ID:	**L2564441-01**	**L2564441-02**	**L2564441-03**	**L2566491-01**	**L2566491-02**	**L2566491-03**
				Sample Date:	**10/9/2025**	**10/9/2025**	**10/9/2025**	**10/20/2025**	**10/20/2025**	**10/20/2025**
				Sample Depth (ft):	**8-9'**	**13-14'**	**16-17'**	**6-7'**	**7-8'**	**10'**
				Stratigraphy:	**Fill**	**Watertable**	**Till Interface**	**Fill**	**Watertable**	**Till Interface**
				PID (ppm):	**0.0**	**0.1**	**6.6**	**6.0**	**6.0**	**0.8**
Analyte	**Method**	**Units**	**MCP RCS-1**	**MCP RCS-2**						
Volatile Organic Compounds (VOCs)	8260B	mg/kg								
1,1,1-Trichloroethane			30	600	<0.0032	<0.0024	0.035	<0.0019	<0.0015	<0.0022
1,1-Dichloroethane			0.4	9	<0.0065	<0.0049	0.089	<0.0038	<0.0031	<0.0043
1,2-Dichloroethene, Total			0.1	0.1	<0.0065	**0.27**	**1.4**	<0.0038	<0.0031	<0.0043
4-Isopropyltoluene			100	1,000	<0.013	<0.0097	0.074	<0.0075	<0.0031	<0.0086
cis-1,2-Dichloroethene			0.1	0.1	<0.0065	**0.27**	**1.3**	<0.0038	<0.0031	<0.0043
Tetrachloroethene			1	4	0.13	**1.1**	**11**	**5.6**	0.52	**4.6**
Toluene			30	1,000	<0.0032	<0.0024	0.031	<0.0019	<0.0031	<0.0022
trans-1,2-Dichloroethene			1	1	<0.0097	<0.0097	0.056	<0.0056	<0.0046	<0.0086
Trichloroethene			0.3	0.3	<0.0032	**0.3**	**0.86**	0.21	0.022	0.16
Vinyl chloride			0.3	1	<0.013	<0.0097	0.25	<0.0075	<0.0031	<0.0086
Total VOCs			100	100	0.130	1.940	15.095	5.810	0.542	4.760
General Chemistry				NS						
Solids, Percent	2540G	%	NS		78	77	90	98	94	91

General Notes:

1. In general, analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024
4. Reportable Concentrations (e.g., RCS-1) where identified, are cited from the MCP.
5. **Bold** = Value exceeds RCS-1 standards.
6. ND = Not detected above laboratory reporting limit
7. NS = No standard has been promulgated for this analyte.
8 NT = Not tested.
9. mg/kg = milligrams per kilogram.

Qualifying Notes:

K- The result has a low bias due to blank spike or laboratory recovery below lower control limits

Table 7-3. Summary of Groundwater Sampling Activities
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Quarterly Groundwater Sampling 5/23/2006 5/24/2006 5/25/2006	SH-MW1, SH-MW2, SH-MW3, GEO-1, GEO-2, MW-1, MW-GEO-3, GEO-4, GEO-5, GEO-6, MW101, MW102 MW103, SH-4	Field Duplicate of GEO-3
Groundwater Sampling 8/7/2006	MW103	NA
Quarterly Groundwater Sampling 10/4/2006 10/5/2006	SH-MW1, SH-MW2, SH-MW3, GEO-3 GEO-4, GEO-5 and GEO-1, GEO-2, MW101, MW102, MW103, MW104 and	Field Duplicate GEO-3 (MW900)
Quarterly Groundwater Sampling 1/16/2007 1/17/2007 1/18/2007	SH-MW1, SH-MW2, GEO-3, GEO-4, GEO-5, GEO-6, SH-MW3, MW-1, MW-3, GEO-1 and GEO-2 MW103, MW106, MW107, MW108, MW109, MW110 and	Field Duplicate GEO-6 (MW900) Field Duplicate GEO-1 (MW800)
Groundwater Sampling 2/20/2007 3/23/2007	MW113 and MW114 MW112A, MW115R AND MW116	NA
Quarterly Groundwater Sampling 4/12/07 4/13/07 4/16/07 5/23/07	SHMW1, SHMW3, GEO1, GEO2 and MW113 GEO3, MW101, MW102, MW103, MW104, MW106, SHMW2, GEO4, GEO5, GEO6, MW105, MW108, MW109, MWCS1	Field Duplicate MW101 (MW900) Field Duplicate GEO-6 (MW901)
Quarterly Groundwater Sampling 7/18/2007 7/19/2007 7/20/2007	MW102, MW107, MW108, MW11, MW112A, MW113, MW114, MW115R, M2116 and MW117S SHMW2, MW104, MW105, MW106, MW117T, MW117D, MW118S, MW118T and MW118D	Sample from MW102 was used for MS/MSD Field Duplicate MW113 (MW900) Field Duplicate MW116 (MW901)
Groundwater Sampling 8/22/07 8/30/07	MW119S, MW119T, MW120S and MW120D MW118S, MW118T and MW118D	NA
Quarterly Groundwater Sampling 10/10/2007 10/11/2007 10/12/2007 10/15/2007 10/22/2007	MW102, MW105, MW106, MW107, MW108, MW111, MW112A, MW113, MW114, MW115 MW117T, MW117D, MW118S, MW118T, MW118D MW116, MW119S, MW119T, MW120S, MW120D, MW201, MW104, MW117S MW121S, MW121D	Sample from MW102 was used for MS/MSD Field Duplicate MW113 (MW900) Field Duplicate MW116 (MW901)
Quarterly Groundwater Sampling 1/9/2008 1/10/2008 1/11/2008 1/15/2008 1/16/2008 1/17/2008	MW105, MW115 MW102, MW106, MW107, MW108, MW111, MW112A MW104, MW113, MW114, MW116, MW117S, MW118S, MW201, MW202 MW117T, MW117D, MW118T, MW119S, MW120S, MW118D, MW119T MW120D	Sample from MW102 was used for MS/MSD Field Duplicate MW113 (MW900) Field Duplicate MW116 (MW901)
Groundwater Sampling 1/30/2008	MW122	NA
Quarterly Groundwater Sampling 4/15/2008 4/16/2008 4/17/2008 4/18/2008	GEO-1, SH-MW3, MW3, MW104, MW113, MW116, MW201, MW202, MW203 MW117S, MW117T, MW117D, MW118T, MW118D, MW102, MW106, MW107, MW108, MW109, MW111, MW112A, MW114, MW115R, MW120D, MW121S, MW105	Sample from MW102 was used for MS/MSD Field Duplicate MW113 (MW900) Field Duplicate MW116 (MW901)

Table 7-3. Summary of Groundwater Sampling Activities
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Sampling Event and Date	Sampled Locations	QA/QC Samples
Quarterly Groundwater Sampling 7/14/2008 7/15/2008 7/16/2008	MW105, MW112A, MW121S, MW121D, MW122 GEO-1, GEO-2, MW-3, MW104,MW118S, MW118T, MW118D, MW119S, MW119T, MW120S, MW120D, MW116, MW117S, MW117T, MW117D, MW118D	Sample from MW104 was used for MS/MSD Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
Quarterly Groundwater Sampling 10/21/2008 10/22/2008	MW104, GEO-1, GEO-2 MW116, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW202, MW-3 MW105, MW112A, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122	Sample from MW104 was used for MS/MSD Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
Quarterly Groundwater Sampling 4/15/2008 4/16/2008 4/17/2008 4/18/2008	GEO-1, SH-MW3, MW3, MW104, MW113, MW116, MW201, MW202, MW203 MW117S, MW117T, MW117D, MW118T, MW118D, MW102, MW106, MW107, MW108, MW109, MW111, MW112A, MW114, MW115R, MW120D, MW121S, MW105	Sample from MW102 was used for MS/MSD Field Duplicate MW113 (MW900) Field Duplicate MW116 (MW901)
Quarterly Groundwater Sampling 7/14/2008 7/15/2008 7/16/2008	MW105, MW112A, MW121S, MW121D, MW122 GEO-1, GEO-2, MW-3, MW104,MW118S, MW118T, MW118D, MW119S, MW119T, MW120S, MW120D, MW116, MW117S, MW117T, MW117D, MW118D	Sample from MW104 was used for MS/MSD Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
Quarterly Groundwater Sampling 10/21/2008 10/22/2008	MW104, GEO-1, GEO-2 MW116, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW202, MW-3 MW105, MW112A, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122	Sample from MW104 was used for MS/MSD Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
Quarterly Groundwater Sampling 1/12/2009 1/13/2009 1/14/2009	MW105, MW112A, MW121S, MW121D, MW122 GEO-1, GEO-2, MW117S, MW117T, MW117D, MW119S, MW104, MW-3, MW116, MW118S, MW118T, MW118D	Sample from MW104 was used for MS/MSD Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
Quarterly Groundwater Sampling 4/13/2009 4/14/2009 4/15/2009	GEO-1, GEO-2, MW105, MW112A, MW119S, MW119T, MW121S, MW121D, MW122 MW-3, MW104, MW117S, MW117T, MW117D, MW118T, MW102, MW116, MW118S	Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
Quarterly Groundwater Sampling 7/14/2009 7/15/2009	MW105, MW112A, MW116, MW118T, MW121S, MW121D, MW202 GEO-1, GEO-2, MW-3, MW104,MW117S, MW117T, MS117D, MW118S, MW118D, MW119S, MW119T,	Sample from MW104 was used for MS/MSD Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
Quarterly Groundwater Sampling 10/14/2009 10/15/2009 10/16/2009	GEO-1, GEO-2, MW104, MW105, MW112A, MW116, MW117S, MW117D, MW118S, MW118D, MW121S, MW119T, MW119S, MW120S, MW120D, MW118T MW117T, MW3	Sample from MW104 was used for MS/MSD Field duplicate MW112A (MW900) Field duplicate MW118D (MW901)
Annual Groundwater Sampling 4/12/2010 4/13/2010	MW104, MW105, MW112A, MW118S, MW118T, MW118D, MW121S, MW121D, MW122, MW202 GEO-1, GEO-2, SH-MW3, MW116, MW117S, MW117T, MW117D, MW119S, MW119T, MW120S, MW120D	Sample from MW104 was used for MS/MSD Field duplicate MW112A (MW900) Field duplicate MW116 (MW901)
Semi-Annual Groundwater Sampling 10/27/2010	MW112A, MW122	NA

Table 7-3. Summary of Groundwater Sampling Activities
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Sampling Event and Date	Sampled Locations	QA/QC Samples
Annual Groundwater Sampling 4/20/2011 4/21/2011 4/22/2011	 MW105, MW112A, MW117D, MW118S, MW118T, GEO-2, SH-MW3, MW104, MW116, MW117S, MW117T GEO-1, MW119S, MW119D, MW120S, MW120D, MW202	 Sample from MW104 was used for MS/MSD Field duplicate MW112A (MW900) Field duplicate MW116 (MW901)
Semi-Annual Groundwater Sampling 11/16/2011	 MW112A, MW122	NA
Annual Groundwater Sampling 4/16/2012 4/17/2012	 SH-MW-3, MW112A, MW117S, MW117T, MW117D, MW118D, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D GEO-1, MW104, MW105, MW116, MW118T, MW122, MW202	 Sample from MW104 was used for MS/MSD Field duplicate MW112A (MW900) Field duplicate MW116 (MW901)
Semi-Annual Groundwater Sampling 11/12/2012	 MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling 4/23/2013 4/24/2013 5/1/2013	 SH-MW-3, MW105, MW117T, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122, MW202 GEO-1, MW104, MW112A, MW116, MW117S, MW117D, MW118S, MW118T, MW118D GEO-2	 Sample from MW104 was used for MS/MSD Field duplicate MW116 (MW900) Field duplicate MW112A (MW901)
Semi-Annual Groundwater Sampling 11/18/2013	 MW112A, MW118D, MW121D, MW122	NA
Kleinfelder Groundwater Sampling 2/6/2014 4/8/2014 4/9/2014 4/14/2014 4/15/2014	 KE-114-140206, KE-115-140206, KE-116-140206, KE-117-140206, MW-SR-140206, WashSW-140206 KE-202D, KE-202S KE-117 KE-204, KE-206, KE-208 KE-205, KE-207, KE-209, KE-210	 Sample from WashSW-140206 was a grab sample from the base of an open excavation.
Annual Groundwater Sampling 4/30/2014 5/1/2014 6/11/2014	 MW104, MW121S, MW121D, MW122, SH-MW-3, GEO-1, GEO-2 MW117S, MW117T, MW117D, MW118S, MW118D, MW118T, MW119S, MW119T, MW120S, MW120D, MW116 MW112A	 Sample from MW104 was used for MS/MSD Field duplicate MW116 (MW900)
Semi-Annual Groundwater Sampling 11/18/2014	 MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling 4/2/2015 4/3/2015 4/17/2015	 MW104, MW116, MW117S, MW117T, MW117D, MW118S, MW118D, MW119S, MW119T, MW121S, MW121D, MW122, SH-MW-3, GEO-1, GEO-2 MW118T, MW120S, MW120D MW112A	 Sample from MW104 was used for MS/MSD Field duplicate MW112A (MW900) Field duplicate MW116 (MW901)
Semi-Annual Groundwater Sampling 11/19/2015	 MW118D, MW121D, MW122	NA
Annual Groundwater Sampling 4/28/2016 4/29/2016	 MW1112A, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122, GEO-1 MW104, MW116, MW202, GEO-2	 Sample from MW104 was used for MS/MSD Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)

Table 7-3. Summary of Groundwater Sampling Activities
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Semi-Annual Groundwater Sampling		
11/21/2016	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/17/2017	MW104, MW116, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW121S, MW121D, MW122, MW202, GEO-1	Field duplicate MW116 (MW900) Field duplicate MW112A (MW901)
4/18/2017	MW112A, MW119S, MW119T, MW120S, MW120D, GEO-2	Sample from MW104 was used for MS/MSD
4/28/2017	SH-MW-2, MW104	
Semi-Annual Groundwater Sampling		
11/8/2017	MW118D, MW121D, MW122	NA
11/10/2017	MW112A	
Annual Groundwater Sampling		
4/3/2018	MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW119S, MW119T, MW121S, MW121D, MW122	Sample from MW104 was used for MS/MSD Field duplicate MW116 (MW900)
4/4/2018	GEO-1, GEO-2, MW104, MW112A, MW116, MW120S, MW120D, MW202, SH-MW-2	Field duplicate GEO-2 (MW901)
Semi-Annual Groundwater Sampling		
11/15/2018	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/15/2019	MW112A, MW117S, MW117T, MW117D, MW118S, MW118D, MW121S, MW121D, MW122	Sample from SHMW2 was used for MS/MSD Field duplicate MW116 (MW900)
4/16/2019	MW116, MW118T, MW119S, MW119T, MW120S, MW120D, MW202, SHMW2, GEO-1, GEO-2	Field duplicate GEO-2 (MW901)
Semi-Annual Groundwater Sampling		
11/23/2019	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/16/2020	MW112A, MW117S, MW117T, MW117D, MW118S, MW118D, MW121S, MW121D, MW122	Sample from MW202 was used for MS/MSD Field duplicate MW116 (MW900)
4/17/2020	MW116, MW118T, MW119S, MW119T, MW120S, MW120D, MW202, GEO-1, GEO-2	Field duplicate GEO-2 (MW901)
Semi-Annual Groundwater Sampling		
11/18/2020	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/13/2021	MW112A, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW121S, MW121D, MW122	Sample from GEO-1 was used for MS/MSD Field duplicate MW116 (MW900)
4/14/2021	MW116, MW119S, MW119T, MW120S, MW120D, MW202, GEO-1, GEO-2	Field duplicate GEO-2 (MW901)
Semi-Annual Groundwater Sampling		
11/30/2021	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/12/2022	MW118S, MW118T, MW118D, MW117T, MW117S, MW117D	Sample from GEO-1 was used for MS/MSD Field duplicate MW116 (MW900)
4/13/2022	MW120S, MW120D, MW119S, MW119T, MW121S, MW121D, GEO-1, MW122, MW202, MW116	Field duplicate GEO-2 (MW901)
4/14/2022	GEO-2 and MW112A	
Semi-Annual Groundwater Sampling		
11/29/2022	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/17/2023	MW118S, MW118T, MW118D, MW117T, MW117S, MW117D, MW122, MW119S, MW119T	Sample from GEO-1 was used for MS/MSD Field duplicate MW116 (MW900)
4/18/2023	MW120S, MW120D, MW121S, MW121D, GEO-1, GEO-2, MW202, MW116	Field duplicate GEO-2 (MW901)
5/11/2023	MW112A	
Additional Sampling for PSS		
9/15/2023	MW108	NA
Semi-Annual Groundwater Sampling		
11/7/2023	MW 112A, MW118D, MW121D, MW122	NA

Table 7-3. Summary of Groundwater Sampling Activities
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Annual Groundwater Sampling		
4/2/2024	MW107, MW112A, MW118D, MW118S, MW118T, MW117D, MW117S, MW117T, MW119S, MW119T, GEO-1, MW108, MW120S	Sample from GEO-1 was used for MS/MSD Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)
4/3/2024	MW102, MW103, MW106, MW116, MW120D, MW121S, MW121D, MW201, MW202, GEO-5, GEO-6, SH-MW2R	
4/4/2024	MW104R, MW109, MW122,GEO-2, GEO-4, MW203R	
Semi-Annual Groundwater Sampling		
9/20/2024	MW104R	NA
11/14/2024	MW104R, MW 112A, MW118D, MW121D, MW122	
Site Investigation Sampling		
1/20/2025	MW104R, MW301, MW115R	NA
Annual Groundwater Sampling		
3/7/2025	MW111R	
3/18/2025	GEO-4, GEO-5	
3/19/2025	MW106, MW109, GEO-6	
4/22/2025	MW107, MW108, MW115R, MW117S, MW117D, MW117T, MW118S, MW118D, MW118T, MW119S, MW119T, MW120S, MW120D	Sample from GEO-1 was used for MS/MSD Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)
4/23/2025	MW102, MW103, MW104R, MW121S, MW121D, MW201, MW202, MW301, GEO-1, GEO-2	
4/24/2025	MW111R, MW116, MW122, MW203R, SH-MW2R	
4/25/2025	MW112A	
Semi-Annual Groundwater Sampling		
11/10/2025	MW104R, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW203R,MW403, MW405, MW406	
11/11/2025	GEO-2, MW102, MW103, MW112A MW116, MW119S, MW119T MW120S, MW120D, MW121S, MW121D, MW301, MW402, MW900, MW901	Sample from GEO-1 was used for MS/MSD Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901) Field duplicate MW404 (MW902)
11/12/2025	GEO-4, GEO-5, GEO-6, MW106, MW107, MW108, MW111R MW122, MW201, MW202, MW404, SHMW-2R, MW902	
11/13/2025	GEO-1, MW109, MW115R, MW401S, MW401D	
Site Investigation Sampling		
1/7/2026	MW122, MW407	NA
Semi-Annual Groundwater Sampling		
2/2/2026	MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW405, MW406	
2/3/2026	GEO-2, GEO-6, MW102, MW103, MW104R, MW106, MW112A, MW121S, MW121D, MW203R, MW301, MW201, MW202, MW402, MW403, MW900, MW901	Sample from GEO-1 was used for MS/MSD Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901) Field duplicate MW404 (MW902)
2/4/2026	MW108, MW111R, MW116, MW119S, MW119T, MW120S, MW120D, MW122, MW401S, MW401D, SHMW-2R	
2/5/2026	GEO-1, GEO-4, GEO-5, MW107, MW109, MW115R, MW404, MW902	
Site Microbial Sampling		
2/26/2026	MW104R, MW112A, MW116, MW122, MW203R	NA
Site Investigation Sampling		
3/10/2026	GEO-5, MW122	NA

General Notes:

1. NA = not applicable.
2. QA/QC = quality assurance/quality check.
3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, April 2017, April 2018, April 2019, April 2020, April 2021, April 2022, April and May 2023, April 2024, April 2025, November 2025, and April 2026 were also submitted for natural attenuation parameter testing.
6. Samples collected February 26, 2026, were submitted for microbial DNA testing only.

Table 7-4. Groundwater Elevations
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	5/15/2006		5/16/2006		5/23/2006		5/31/2006		7/24/2006		8/1/2006		8/3/2006		8/16/2006	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	9.69	16.21	9.53	16.37	10.9	15	11.39	14.51	--	--	--	--	--	--	11.9	14
MW-2	unknown	25.38	8.99	16.39	10.36	15.02	Dry	Dry	Dry	Dry	--	--	--	--	--	--	Dry	Dry
MW-3	unknown	25.31	8.88	16.43	9.32	15.99	11.16	14.15	12.71	12.6	--	--	--	--	--	--	13.73	11.58
MW-101	9 - 19	26.75	--	--	10.56	16.19	11.53	15.22	12.1	14.65	12.33	14.42	12.51	14.24	13.47	13.28	12.78	13.97
MW-102	6 - 16	18.89	--	--	6.62	12.27	6.86	12.03	7.44	11.45	7.93	10.96	8.16	10.73	9.11	9.78	8.51	10.38
MW-103	6 - 16	19.47	--	--	9.5	9.97	10.37	9.1	10.74	8.73	11.15	8.32	11.31	8.16	12.24	7.23	11.72	7.75
MW-104	5 - 15	17.67	--	--	--	--	7.93	9.74	8.89	8.78	9.06	8.61	9.39	8.28	10.29	7.38	9.87	7.8
MW-104R	5 - 20	15.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	19 - 29	38.84	--	--	19.49	19.35	20.21	18.63	20.7	18.14	21.18	17.66	21.43	17.41	22.41	16.43	21.91	16.93
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-107	2 - 12	14.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108	2 - 12	12.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-109	3 - 13	24.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110	3 - 13	15.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111	4 - 14	18.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111R	5 - 15	18.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112a	4 - 19	17.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-113	10 - 20	26.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114	7 - 17	29.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-115/115R	10 - 25	27.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-116	5 - 15	13.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117S	5 - 20	21.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117T	35 - 45	21.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117D	60 - 70	21.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118S	3 - 14	15.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118T	39.5 - 49.5	15.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118D	70 - 80	15.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-119S	5 - 20	11.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-119T	42 - 47	11.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-120S	5 - 20	12.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-120D	28 - 38	12.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-121S	5 - 20	12.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-121D	32 - 47	12.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-122	4 - 16	16.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GEO-1	5 - 20	25.88	9.69	16.19	9.9	15.98	10.92	14.96	11.36	14.52	--	--	--	--	--	--	11.82	14.06
GEO-2	5 - 20	26.54	9.76	16.78	--	--	11.38	15.16	11.91	14.63	--	--	--	--	--	--	12.51	14.03
GEO-3	5 - 20	25.64	10.43	15.21	9.59	16.05	9.87	15.77	10.67	14.97	11.67	13.97	11.85	13.79	12.84	12.8	12.25	13.39
GEO-4	4 - 19	21.69	--	--	7.79	13.9	9.85	11.84	10.78	10.91	11.25	10.44	11.45	10.24	12.43	9.26	11.9	9.79
GEO-5	5 - 20	20.14	--	--	6.78	13.36	9.08	11.06	9.96	10.18	10.29	9.85	10.56	9.58	11.51	8.63	10.99	9.15
GEO-6	5 - 20	17.62	--	--	5.66	11.96	7.39	10.23	8.23	9.39	8.43	9.19	8.73	8.89	9.64	7.98	9.25	8.37
SH-1	9 - 14	29.55	10.15	19.4	11.4	18.15	Dry	Dry	Dry	Dry	--	--	--	--	--	--	Dry	Dry
SH-2	7 - 14	29.64	5.71	23.93	7.86	21.78	12.07	17.57	12.22	17.42	--	--	--	--	--	--	11.98	17.66
SH-3	8 - 13	29.66	7.54	22.12	8.56	21.1	12.73	16.93	12.96	16.7	--	--	--	--	--	--	Dry	Dry
SH-4	11 - 16	29.63	13.53	16.1	13.48	16.15	14.48	15.15	15.02	14.61	--	--	--	--	--	--	15.09	14.54
SH-5	8 - 13	29.63	Dry	Dry	--	--	12.99	16.64	13.03	16.6	--	--	--	--	--	--	Dry	Dry
SH-MW1	10 - 30	24.02	6.72	17.3	--	--	11.44	12.58	12.18	11.84	--	--	--	--	--	--	13.09	10.93
SH-MW2	10 - 25	24.27	9.33	14.94	--	--	12.05	12.22	12.69	11.58	--	--	--	--	--	--	13.38	10.89
SH-MW2R	10 - 23	24.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	7.8	14.51	--	--	10.26	12.05	11.03	11.28	--	--	--	--	--	--	13	9.31
MW201	11 - 21	27.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW202	10.5 - 20.5	27.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW203	6 - 18	21.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW203R	13 - 23	24.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW301	5-15	13.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401S	10-20	16.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401D	34-44	16.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW402	20-30	19.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW403	80-90	16.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW404	72.5-82.5	24.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW405	8-18	15.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW406	4-14	13.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW407	4.45-14.45	25.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.
8. NM = Not measured.

Table 7-4. Groundwater Elevations
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	9/29/2006		10/4/2006		11/14/2006		12/12/2006		1/16/2007		2/12/2007		3/14/2007		4/12/2007	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	11.88	14.02	--	--	--	--	11.6	14.3	--	--	--	--	11.39	14.51
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	Destroyed	Destroyed	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	13.75	11.56	--	--	--	--	13.05	12.26	--	--	--	--	12.57	12.74
MW-101	9 - 19	26.75	12.85	13.9	12.76	13.99	12.25	14.5	12.57	14.18	12.4	14.35	12.81	13.94	12.34	14.41	12.11	14.64
MW-102	6 - 16	18.89	8.68	10.21	8.52	10.37	7.64	11.25	8.01	10.88	7.72	11.17	8.52	10.37	--	--	7.46	11.43
MW-103	6 - 16	19.47	11.98	7.49	11.92	7.55	11	8.47	11.21	8.26	10.88	8.59	11.74	7.73	11	8.47	10.66	8.81
MW-104	5 - 15	17.67	9.95	7.72	9.92	7.75	--	--	--	--	8.73	8.94	--	--	--	--	8.75	8.92
MW-104R	5 - 20	15.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	19 - 29	38.84	22.27	16.57	22.18	16.66	21.16	17.68	21.76	17.08	21.46	17.38	22.03	16.81	21.56	17.28	20.88	17.96
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	12.27	14.06	12.91	13.42	11.65	14.68
MW-107	2 - 12	14.63	--	--	--	--	--	--	--	--	--	--	4.54	10.09	4.5	10.13	4.49	10.14
MW-108	2 - 12	12.74	--	--	--	--	--	--	--	--	--	--	4.93	7.81	4.02	8.72	9.91	2.83
MW-109	3 - 13	24.12	--	--	--	--	--	--	--	--	--	--	12.07	12.05	11.27	12.85	10.27	13.85
MW-110	3 - 13	15.58	--	--	--	--	--	--	--	--	--	--	5.99	9.59	1.46	14.12	1.04	14.54
MW-111	4 - 14	18.95	--	--	--	--	--	--	--	--	--	--	11.38	7.57	10.62	8.33	10.65	8.3
MW-111R	5 - 15	18.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	Dry	Dry	8.01	10.15	Dry	Dry
MW-112a	4 - 19	17.78	--	--	--	--	--	--	--	--	--	--	--	--	12.76	5.02	12.76	5.02
MW-113	10 - 20	26.16	--	--	--	--	--	--	--	--	--	--	--	--	11.66	14.5	11.44	14.72
MW-114	7 - 17	29.43	--	--	--	--	--	--	--	--	--	--	--	--	12.67	16.76	11.27	18.16
MW-115/115R	10 - 25	27.15	--	--	--	--	--	--	--	--	--	--	--	--	17.19	9.96	16.21	10.94
MW-116	5 - 15	13.45	--	--	--	--	--	--	--	--	--	--	--	--	8.78	4.67	8.34	5.11
MW-117S	5 - 20	21.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117T	35 - 45	21.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117D	60 - 70	21.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118S	3 - 14	15.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118T	39.5 - 49.5	15.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118D	70 - 80	15.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-119S	5 - 20	11.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-119T	42 - 47	11.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-120S	5 - 20	12.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-120D	28 - 38	12.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-121S	5 - 20	12.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-121D	32 - 47	12.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-122	4 - 16	16.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GEO-1	5 - 20	25.88	--	--	11.85	14.03	--	--	--	--	11.55	14.33	--	--	--	--	11.36	14.52
GEO-2	5 - 20	26.54	--	--	12.51	14.03	--	--	--	--	12.2	14.34	--	--	--	--	11.97	14.57
GEO-3	5 - 20	25.64	12.37	2.84	12.35	13.29	11.63	14.01	11.72	13.92	11.58	14.06	12.21	13.43	11.49	14.15	10.76	14.88
GEO-4	4 - 19	21.69	12.09	9.6	12.04	9.65	10.58	11.11	11.31	10.38	10.77	10.92	11.83	9.86	11.03	10.66	10.51	11.18
GEO-5	5 - 20	20.14	11.21	8.93	11.15	8.99	9.47	10.67	10.48	9.66	9.73	10.41	11.02	9.12	10.15	9.99	9.7	10.44
GEO-6	5 - 20	17.62	9.41	8.21	9.26	8.36	7.65	9.97	8.82	8.8	8.11	9.51	9.3	8.32	8.54	9.08	8.32	9.3
SH-1	9 - 14	29.55	--	--	Dry	Dry	--	--	--	--	Dry	Dry	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	12	17.64	--	--	--	--	Dry	Dry	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	Dry	Dry	--	--	--	--	Dry	Dry	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	15.1	14.53	--	--	--	--	Dry	Dry	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	Dry	Dry	--	--	--	--	Dry	Dry	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	13.17	10.85	--	--	--	--	12.21	11.81	--	--	--	--	12.01	12.01
SH-MW2	10 - 25	24.27	--	--	13.41	10.86	--	--	--	--	12.73	11.54	--	--	--	--	12.61	11.66
SH-MW2R	10 - 23	24.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	--	--	12.04	10.27	--	--	--	--	11.04	11.27	--	--	--	--	10.81	11.5
MW201	11 - 21	27.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW202	10.5 - 20.5	27.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW203	6 - 18	21.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW203R	13 - 23	24.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW301	5-15	13.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401S	10-20	16.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401D	34-44	16.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW402	20-30	19.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW403	80-90	16.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW404	72.5-82.5	24.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW405	8-18	15.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW406	4-14	13.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW407	4.45-14.45	25.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.
8. NM = Not measured.

Table 7-4. Groundwater Elevations
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	5/29/2007		6/26/2007		7/16/2007		8/22/2007		9/27/2007		10/23/2007		11/30/2007		1/9/2008	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	11.41	14.49	11.8	14.1	12.04	13.86	--	--	12.26	13.64	12.07	13.83	11.95	13.95	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	14.89	10.42	13.6	11.71	13.94	11.37	--	--	14.34	10.97	13.94	11.37	13.75	11.56	12.86	12.45
MW-101	9 - 19	26.75	12.17	14.58	12.62	14.13	12.85	13.9	13.03	13.72	13.17	13.58	12.91	13.84	13.82	12.93	12.11	14.64
MW-102	6 - 16	18.89	6.72	12.17	8.36	10.53	8.74	10.15	9.08	9.81	9.35	9.54	8.97	9.92	8.01	10.88	7.46	11.43
MW-103	6 - 16	19.47	10.81	8.66	11.47	8.0	11.92	7.55	12.3	7.17	12.63	6.84	--	--	12.18	7.29	10.74	8.73
MW-104	5 - 15	17.67	--	--	9.62	8.05	10.09	7.58	10.36	7.31	10.61	7.06	10.31	7.36	10.07	7.6	8.86	8.81
MW-104R	5 - 20	15.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	19 - 29	38.84	20.86	17.98	21.55	17.29	22.13	16.71	22.79	16.05	23.18	15.66	22.96	15.88	22.74	16.1	21.39	17.45
MW-106	9 - 19	26.33	11.69	14.64	12.07	14.26	12.33	14	12.48	13.85	12.61	13.72	12.39	13.94	12.27	14.06	11.71	14.62
MW-107	2 - 12	14.63	4.46	10.17	4.48	10.15	4.52	10.11	4.75	9.88	4.51	10.12	4.47	10.16	4.44	10.19	4.35	10.28
MW-108	2 - 12	12.74	4.25	8.49	5.06	7.68	6.59	6.15	6.25	6.49	6.28	6.46	5.86	6.88	4.74	8.0	3.71	9.03
MW-109	3 - 13	24.12	10.73	13.39	11.76	12.36	12.24	11.88	Dry	Dry	Dry	Dry	Dry	Dry	12.78	11.34	10.64	13.48
MW-110	3 - 13	15.58	2.56	13.02	6.57	9.01	7.17	8.41	7.86	7.72	8.37	7.21	6.92	8.66	3.34	12.24	--	--
MW-111	4 - 14	18.95	10.68	8.27	11.11	7.84	11.54	7.41	11.96	6.99	12.34	6.61	11.99	6.96	12.27	6.68	10.51	8.44
MW-111R	5 - 15	18.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112	3 - 10	18.16	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
MW-112a	4 - 19	17.78	12.67	5.11	12.81	4.97	12.88	4.9	--	--	12.95	4.83	12.8	4.98	--	--	12.43	5.35
MW-113	10 - 20	26.16	11.51	14.65	11.99	14.17	12.22	13.94	12.43	13.73	12.58	13.58	12.3	13.86	12.6	13.56	11.5	14.66
MW-114	7 - 17	29.43	11.53	17.9	12.88	16.55	15.57	13.86	14.24	15.19	14.84	14.59	14.66	14.77	14.31	15.12	12.08	17.35
MW-115/115R	10 - 25	27.15	16.63	10.52	17.42	9.73	17.97	9.18	18.38	8.77	18.81	8.34	18.37	8.78	18.24	8.91	16.18	10.97
MW-116	5 - 15	13.45	8.65	4.8	8.76	4.69	--	--	8.85	4.6	8.91	4.54	8.83	4.62	--	--	8.6	4.85
MW-117S	5 - 20	21.94	--	--	--	--	15.27	6.67	15.7	6.24	16.03	5.91	16.2	5.74	15.95	5.99	13.97	7.97
MW-117T	35 - 45	21.87	--	--	--	--	15.95	5.92	16.38	5.49	16.81	5.06	16.91	4.96	16.58	5.29	14.58	7.29
MW-117D	60 - 70	21.78	--	--	--	--	15.87	5.91	16.26	5.52	16.69	5.09	16.77	5.01	16.44	5.34	14.46	7.32
MW-118S	3 - 14	15.52	--	--	--	--	11.64	3.88	9.84	5.68	10.2	5.32	9.42	6.1	9.4	6.12	8.55	6.97
MW-118T	39.5 - 49.5	15.30	--	--	--	--	10.36	4.94	10.51	4.79	10.74	4.56	10.68	4.62	10.5	4.8	9.93	5.37
MW-118D	70 - 80	15.15	--	--	--	--	10.18	4.97	10.32	4.83	10.55	4.6	10.49	4.66	10.25	4.9	9.55	5.6
MW-119S	5 - 20	11.74	--	--	--	--	--	--	4.91	6.83	4.99	6.75	4.93	6.81	4.85	6.89	4.63	7.11
MW-119T	42 - 47	11.67	--	--	--	--	--	--	6.45	5.22	6.8	4.87	6.72	4.95	6.57	5.1	5.82	5.85
MW-120S	5 - 20	12.54	--	--	--	--	--	--	5.25	7.29	5.35	7.19	4.71	7.83	4.62	7.92	3.51	9.03
MW-120D	28 - 38	12.45	--	--	--	--	--	--	--	--	4.21	8.24	3.94	8.51	3.48	8.97	3.17	9.28
MW-121S	5 - 20	12.44	--	--	--	--	--	--	--	--	--	--	7.36	5.08	7.41	5.03	7.24	5.2
MW-121D	32 - 47	12.81	--	--	--	--	--	--	--	--	--	--	7.92	4.89	7.75	5.06	6.95	5.86
MW-122	4 - 16	16.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GEO-1	5 - 20	25.88	11.38	14.5	11.73	14.15	11.93	13.95	12.1	13.78	12.21	13.67	11.98	13.9	11.91	13.97	11.41	14.47
GEO-2	5 - 20	26.54	11.99	14.55	12.4	14.14	13.6	12.94	12.81	13.73	12.91	13.63	12.63	13.91	12.57	13.97	12.02	14.52
GEO-3	5 - 20	25.64	11.04	14.6	11.94	13.7	---	---	12.7	12.94	12.94	12.7	12.61	13.03	12.54	13.1	10.99	14.65
GEO-4	4 - 19	21.69	10.87	10.82	11.64	10.05	12.09	9.6	12.55	9.14	13.02	8.67	12.64	9.05	12.47	9.22	11.72	9.97
GEO-5	5 - 20	20.14	10.01	10.13	10.79	9.35	11.25	8.89	11.74	8.4	11.18	8.96	11.72	8.42	12.62	7.52	9.92	10.22
GEO-6	5 - 20	17.62	8.25	9.37	8.9	8.72	9.5	8.12	9.92	7.7	10.22	7.4	9.96	7.66	9.96	7.66	8.21	9.41
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	12.26	11.76	---	---	---	---	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	12.74	11.53	13.25	11.02	13.48	10.79	13.72	10.55	14.04	10.23	13.68	10.59	13.85	10.42	12.77	11.5
SH-MW2R	10 - 23	24.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	--	--	11.72	10.59	12.08	10.23	12.43	9.88	12.79	9.52	12.41	9.9	12.05	10.26	11.55	10.76
MW201	11 - 21	27.51	--	--	--	--	--	--	13.71	13.8	13.83	13.68	13.58	13.93	13.5	14.01	12.98	14.53
MW202	10.5 - 20.5	27.82	--	--	--	--	--	--	13.99	13.83	14.08	13.74	13.88	13.94	13.81	14.01	13.41	14.41
MW203	6 - 18	21.80	--	--	--	--	--	--	14.05	7.75	14.39	7.41	13.86	7.94	13.61	8.19	12.86	8.94
MW203R	13 - 23	24.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW301	5-15	13.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401S	10-20	16.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401D	34-44	16.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW402	20-30	19.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW403	80-90	16.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW404	72.5-82.5	24.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW405	8-18	15.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW406	4-14	13.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW407	4.45-14.45	25.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.
8. NM = Not measured.

Table 7-4. Groundwater Elevations
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	2/26/2008		3/18/2008		4/15/2008		5/19/2008		7/14/08		8/22/08		10/20/08		1/13/09	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	11.42	14.48	11.57	14.33	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	---	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	12.05	13.26	12.37	12.94	12.81	12.5	12.99	---	--	--	--	--	--	--	12.49	12.82
MW-101	9 - 19	26.75	--	--	11.85	14.9	12.02	14.73	12.26	14.49	13.11	13.64	--	--	12.61	14.14	12.07	14.68
MW-102	6 - 16	18.89	7.29	11.6	7.17	11.72	8.57	10.32	7.9	10.99	9.51	9.38	8.00	10.89	8.49	10.4	7.50	11.39
MW-103	6 - 16	19.47	10.51	8.96	10.5	8.97	10.82	8.65	11.11	8.36	12.17	7.30	11.17	8.30	11.87	7.6	10.73	8.74
MW-104	5 - 15	17.67	8.61	9.06	8.48	9.19	9.84	7.83	9.25	8.42	9.67	8.00	9.06	8.61	9.72	7.95	8.71	8.96
MW-104R	5 - 20	15.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	19 - 29	38.84	20.79	18.05	20.41	18.43	20.91	17.93	21.24	17.6	22.02	16.82	21.40	17.44	21.8	17.04	20.9	17.94
MW-106	9 - 19	26.33	11.51	14.82	11.38	14.95	12.54	13.79	11.72	14.61	11.68	14.65	11.73	14.60	11.64	14.69	11.6	14.73
MW-107	2 - 12	14.63	--	--	4.46	10.17	5.58	9.05	---	---	4.52	10.11	4.41	10.22	4.49	10.14	4.5	10.13
MW-108	2 - 12	12.74	4.61	8.13	3.68	9.06	3.91	8.83	3.99	8.75	5.16	7.58	4.44	8.30	4.71	8.03	3.4	9.34
MW-109	3 - 13	24.12	10.06	14.06	10.02	14.1	11.64	12.48	11.29	12.83	11.87	12.25	11.18	12.94	11.73	12.39	10.43	13.69
MW-110	3 - 13	15.58	0.79	14.79	1.12	14.46	1.57	14.01	2.5	13.08	--	--	3.59	11.99	--	--	1.45	14.13
MW-111	4 - 14	18.95	10.5	8.45	10.54	8.41	16.64	2.31	10.71	8.24	12.23	6.72	10.73	8.22	11.37	7.58	10.55	8.4
MW-111R	5 - 15	18.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112	3 - 10	18.16	Dry	Dry	--	--	----	---	---	---	--	--	8.33	9.83	--	--	--	--
MW-112a	4 - 19	17.78	12.52	5.26	12.61	5.17	13.71	4.07	12.77	5.01	13.56	4.22	12.93	4.85	13.01	4.77	12.78	5.0
MW-113	10 - 20	26.16	11.28	14.88	11.15	15.01	11.39	14.77	11.62	14.54	12.01	14.15	11.63	14.53	11.99	14.17	11.41	14.75
MW-114	7 - 17	29.43	11.11	18.32	10.75	18.68	12.42	17.01	12.3	17.13	13.24	16.19	12.21	17.22	13.19	16.24	11.25	18.18
MW-115/115R	10 - 25	27.15	15.85	11.3	15.86	11.29	16.45	10.7	16.72	10.43	18.49	8.66	16.78	10.37	17.8	9.35	16.35	10.8
MW-116	5 - 15	13.45	8.68	4.77	8.77	4.68	8.85	4.6	8.88	4.57	9.09	4.36	9.01	4.44	--	--	8.94	--
MW-117S	5 - 20	21.94	13.52	8.42	13.5	8.44	14.22	7.72	14.6	7.34	14.99	6.95	13.90	8.04	14.67	7.27	14.02	7.92
MW-117T	35 - 45	21.87	13.97	7.9	13.9	7.97	14.67	7.2	14.94	6.93	15.68	6.19	15.27	6.60	15.26	6.61	14.45	7.42
MW-117D	60 - 70	21.78	13.86	7.92	13.81	7.97	14.51	7.27	14.89	6.89	15.61	6.17	14.67	7.11	15.27	6.51	14.3	7.48
MW-118S	3 - 14	15.52	8.34	7.18	8.4	7.12	10	5.52	9.38	6.14	9.64	5.88	8.48	7.04	9.05	6.47	8.41	7.11
MW-118T	39.5 - 49.5	15.30	9.49	5.81	9.53	5.77	9.83	5.47	9.94	5.36	10.35	4.95	9.92	5.38	10.19	5.11	9.73	5.57
MW-118D	70 - 80	15.15	9.3	5.85	9.35	5.8	9.64	5.51	9.8	5.35	10.11	5.04	9.70	5.45	9.99	5.16	9.54	5.61
MW-119S	5 - 20	11.74	4.6	7.14	4.56	7.18	4.91	6.83	4.92	6.82	4.94	6.80	6.08	5.66	4.08	7.66	4.41	7.33
MW-119T	42 - 47	11.67	5.63	6.04	5.78	5.89	5.97	5.7	6.1	5.57	6.52	5.15	4.52	7.15	6.78	4.89	5.85	5.82
MW-120S	5 - 20	12.54	4.06	8.48	4.0	8.54	5.1	7.44	4.57	7.97	5.18	7.36	4.61	7.93	4.01	8.53	4.03	8.51
MW-120D	28 - 38	12.45	2.96	9.49	3.11	9.34	3.26	9.19	3.44	9.01	3.82	8.63	2.90	9.55	3.32	9.13	3.18	9.27
MW-121S	5 - 20	12.44	7.36	5.08	7.41	5.03	9.39	3.05	7.29	5.15	9.21	3.23	7.70	4.74	9.01	3.43	7.68	4.76
MW-121D	32 - 47	12.81	6.83	5.98	6.91	5.9	7.31	5.5	7.27	5.54	7.64	5.17	7.30	5.51	9.64	3.17	7.07	5.74
MW-122	4 - 16	16.42	12.98	3.44	13	3.42	13.03	3.39	12.99	3.43	13.15	3.27	13.17	3.25	11.42	5.0	13.15	3.27
GEO-1	5 - 20	25.88	11.22	14.66	--	--	11.25	14.63	11.4	14.48	12.32	13.56	12.00	13.88	12.14	13.74	11.26	14.62
GEO-2	5 - 20	26.54	11.77	14.77	--	--	12.81	13.73	12.01	14.53	11.73	14.81	11.41	15.13	11.58	14.96	11.88	14.66
GEO-3	5 - 20	25.64	10.71	14.93	--	--	10.97	14.67	---	---	12.05	13.59	11.57	14.07	--	--	--	--
GEO-4	4 - 19	21.69	10.36	11.33	10.34	11.35	11.46	10.23	11.13	10.56	11.60	10.09	11.16	10.53	11.89	9.8	10.56	11.13
GEO-5	5 - 20	20.14	9.42	10.72	9.52	10.62	10.8	9.34	10.21	9.93	10.89	9.25	10.28	9.86	11.79	8.35	9.70	10.44
GEO-6	5 - 20	17.62	7.78	9.84	7.86	9.76	9.11	8.51	8.51	9.11	9.20	8.42	7.91	9.71	10.95	6.67	8.02	9.6
SH-1	9 - 14	29.55	--	--	--	--	---	---	---	---	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	---	---	---	---	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	---	---	---	---	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	---	---	---	---	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	---	---	---	---	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	---	---	---	---	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	12.49	11.78	12.46	11.81	13.62	10.65	12.89	11.38	11.83	12.44	12.92	11.35	12.01	12.26	12.63	11.64
SH-MW2R	10 - 23	24.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	10.68	11.63	10.65	11.66	11.83	10.48	11.21	11.1	13.27	9.04	11.30	11.01	12.49	9.82	10.87	11.44
MW201	11 - 21	27.51	12.76	14.75	12.64	14.87	12.85	14.66	13.94	13.57	13.31	14.2	13.00	14.51	14.64	12.87	13.27	14.24
MW202	10.5 - 20.5	27.82	13.22	14.6	13.12	14.7	12.73	15.09	13.37	14.45	13.68	14.14	13.41	14.41	13.29	14.53	12.82	15
MW203	6 - 18	21.80	12.03	9.77	12	9.8	13.31	8.49	12.68	9.12	13.15	8.65	12.55	9.25	13.02	8.78	12.25	9.55
MW203R	13 - 23	24.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW301	5-15	13.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401S	10-20	16.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401D	34-44	16.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW402	20-30	19.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW403	80-90	16.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW404	72.5-82.5	24.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW405	8-18	15.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW406	4-14	13.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW407	4.45-14.45	25.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.
8. NM = Not measured.

Table 7-4. Groundwater Elevations
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	4/13/09		7/14/09		10/14/09		4/12/10		10/27/10		4/20/11		11/16/11		4/16/12	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	12.28	13.03	12.92	12.39	13.19	12.12	--	--	--	--	--	--	--	--	--	--
MW-101	9 - 19	26.75	11.91	14.84	12.2	14.55	12.37	14.38	11.61	15.14	--	--	11.73	15.02	--	--	12.71	14.04
MW-102	6 - 16	18.89	7.35	11.54	7.85	11.04	7.99	10.9	7.11	11.78	--	--	7.04	11.85	--	--	8.53	10.36
MW-103	6 - 16	19.47	10.57	8.9	11.07	8.4	11.34	8.13	10.47	9.00	--	--	10.39	9.08	--	--	11.79	7.68
MW-104	5 - 15	17.67	7.98	9.69	8.84	8.83	9.38	8.29	8.52	9.15	--	--	9.28	8.39	--	--	10.24	7.43
MW-104R	5 - 20	15.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	19 - 29	38.84	20.65	18.19	21.4	17.44	21.8	17.04	19.84	19.00	--	--	20.63	18.21	--	--	--	--
MW-106	9 - 19	26.33	11.49	14.84	overflowing	--	overflowing	--	11.16	15.17	--	--	11.39	14.94	--	--	--	--
MW-107	2 - 12	14.63	4.47	10.16	overflowing	--	overflowing	--	4.31	10.32	--	--	4.43	10.2	--	--	--	--
MW-108	2 - 12	12.74	3.73	9.01	4.37	8.37	4.66	8.08	3.86	8.88	--	--	3.56	9.18	--	--	4.72	8.02
MW-109	3 - 13	24.12	10.4	13.72	11.11	13.01	--	--	9.88	14.24	--	--	10.10	14.02	--	--	12.15	11.97
MW-110	3 - 13	15.58	1.1	14.48	2.88	12.7	2.42	13.16	1.39	14.19	--	--	1.67	13.91	--	--	--	--
MW-111	4 - 14	18.95	10.56	8.39	10.67	8.28	10.41	8.54	10.57	8.38	--	--	10.62	8.33	--	--	11.6	7.35
MW-111R	5 - 15	18.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112a	4 - 19	17.78	12.63	5.15	12.78	5.0	12.58	5.2	12.62	5.16	12.31	5.47	12.14	5.64	12.30	5.48	12.70	5.08
MW-113	10 - 20	26.16	11.23	14.93	11.56	14.6	11.73	14.43	10.93	15.23	--	--	11.00	15.16	--	--	12.11	14.05
MW-114	7 - 17	29.43	10.97	18.46	12.04	17.39	--	--	10.24	19.19	--	--	10.46	18.97	--	--	13.70	15.73
MW-115/115R	10 - 25	27.15	15.4	11.75	16.58	10.57	17.4	9.75	16.43	10.72	--	--	16.22	10.93	--	--	18.51	8.64
MW-116	5 - 15	13.45	8.87	4.58	8.97	4.48	8.76	4.69	8.85	4.6	--	--	8.32	5.13	--	--	--	--
MW-117S	5 - 20	21.94	14.38	7.56	14.66	7.28	14.75	7.19	13.32	8.62	--	--	14.06	7.88	--	--	9.06	12.88
MW-117T	35 - 45	21.87	14.43	7.44	15.03	6.84	15.26	6.61	13.56	8.31	--	--	14.18	7.69	--	--	15.58	6.29
MW-117D	60 - 70	21.78	14.26	7.52	14.89	6.89	15.13	6.65	13.48	8.3	--	--	14.01	7.77	--	--	15.81	5.97
MW-118S	3 - 14	15.52	8.7	6.82	9.43	6.09	9.01	6.51	8.31	7.21	--	--	8.55	6.97	--	--	9.66	5.86
MW-118T	39.5 - 49.5	15.30	9.64	5.66	9.92	5.38	9.99	5.31	9.49	5.81	--	--	9.33	5.97	--	--	10.30	5
MW-118D	70 - 80	15.15	9.47	5.68	9.74	5.41	9.73	5.42	9.29	5.86	--	--	9.15	6.00	--	--	10.11	5.04
MW-119S	5 - 20	11.74	4.21	7.53	4.47	7.27	4.33	7.41	4.33	7.41	--	--	4.08	7.66	--	--	5.14	6.6
MW-119T	42 - 47	11.67	5.8	5.87	6.04	5.63	6.01	5.66	5.68	5.99	--	--	5.55	6.12	--	--	6.50	5.17
MW-120S	5 - 20	12.54	3.85	8.69	4.31	8.23	3.58	8.96	3.98	8.56	--	--	3.65	8.89	--	--	4.78	7.76
MW-120D	28 - 38	12.45	3.11	9.34	3.31	9.14	3.29	9.16	3.04	9.41	--	--	3.18	9.27	--	--	3.87	8.58
MW-121S	5 - 20	12.44	7.57	4.87	7.62	4.82	7.71	4.73	7.67	4.77	--	--	7.12	5.32	--	--	7.26	5.18
MW-121D	32 - 47	12.81	6.98	5.83	7.27	5.54	7.37	5.44	6.87	5.94	--	--	6.77	6.04	--	--	7.69	5.12
MW-122	4 - 16	16.42	13.16	3.26	13.14	3.28	13.12	3.3	13.09	3.33	13.04	3.38	13.06	3.36	13.16	3.26	13.1	3.32
GEO-1	5 - 20	25.88	11.07	14.81	11.31	14.57	11.54	14.34	17.06	8.82	--	--	10.92	14.96	--	--	--	--
GEO-2	5 - 20	26.54	11.7	14.84	11.99	14.55	12.25	14.29	11.41	15.13	--	--	10.55	15.99	--	--	11.81	14.73
GEO-3	5 - 20	25.64	10.86	14.78	11.48	14.16	11.79	13.85	10.27	15.37	--	--	10.62	15.02	--	--	12.21	13.43
GEO-4	4 - 19	21.69	10.21	11.48	11.00	10.69	--	--	10.26	11.43	--	--	--	--	--	--	11.98	9.71
GEO-5	5 - 20	20.14	9.30	10.84	10.08	10.06	10.44	9.7	9.48	10.66	--	--	9.18	10.96	--	--	11.18	8.96
GEO-6	5 - 20	17.62	7.48	10.14	8.18	9.44	8.66	8.96	7.62	10	--	--	7.63	9.99	--	--	9.54	8.08
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	12.33	11.94	12.77	11.5	13.01	11.26	10.61	13.66	--	--	12.29	11.98	--	--	13.53	10.74
SH-MW2R	10 - 23	24.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	10.52	11.79	11.12	11.19	11.46	10.85	12.39	9.92	--	--	10.46	11.85	--	--	12.00	10.31
MW201	11 - 21	27.51	12.69	14.82	12.94	14.57	13.09	14.42	12.42	15.09	--	--	12.57	14.94	--	--	13.43	14.08
MW202	10.5 - 20.5	27.82	13.15	14.67	13.33	14.49	13.55	14.27	12.94	14.88	--	--	13.02	14.80	--	--	--	--
MW203	6 - 18	21.80	11.5	10.3	12.29	9.51	12.77	9.03	12.03	9.77	--	--	11.83	9.97	--	--	13.85	7.95
MW203R	13 - 23	24.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW301	5-15	13.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401S	10-20	16.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401D	34-44	16.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW402	20-30	19.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW403	80-90	16.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW404	72.5-82.5	24.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW405	8-18	15.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW406	4-14	13.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW407	4.45-14.45	25.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.
8. NM = Not measured.

Table 7-4. Groundwater Elevations
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	11/12/12		4/23/13		11/18/13		4/30/14		6/11/14		11/18/14		4/1/15		4/17/15	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-101	9 - 19	26.75	--	--	12.41	14.34	--	--	12.03	14.72	--	--	--	--	--	--	--	--
MW-102	6 - 16	18.89	--	--	8.01	10.88	--	--	7.68	11.21	--	--	--	--	6.99	11.9	--	--
MW-103	6 - 16	19.47	--	--	11.22	8.25	--	--	10.96	8.51	--	--	--	--	10.43	9.04	--	--
MW-104	5 - 15	17.67	--	--	9.64	8.03	--	--	9.5	8.17	--	--	--	--	8.04	9.63	--	--
MW-104R	5 - 20	15.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	19 - 29	38.84	--	--	21.31	17.53	--	--	--	--	--	--	--	--	--	--	--	--
MW-106	9 - 19	26.33	--	--	--	--	--	--	11.71	14.62	--	--	--	--	--	--	--	--
MW-107	2 - 12	14.63	--	--	--	--	--	--	3.61	11.02	--	--	--	--	--	--	--	--
MW-108	2 - 12	12.74	--	--	4.34	8.4	--	--	4.09	8.65	--	--	--	--	3.31	9.43	--	--
MW-109	3 - 13	24.12	--	--	11.37	12.75	--	--	10.79	13.33	--	--	--	--	9.61	14.51	--	--
MW-110	3 - 13	15.58	--	--	--	--	--	--	2.61	12.97	--	--	--	--	0.60	14.98	--	--
MW-111	4 - 14	18.95	--	--	11.01	7.94	--	--	10.96	7.99	--	--	--	--	10.80	8.15	--	--
MW-111R	5 - 15	18.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112a	4 - 19	17.78	12.72	5.06	12.80	4.98	13.11	4.67	--	--	12.86	4.92	12.39	5.39	--	--	12.86	4.92
MW-113	10 - 20	26.16	--	--	11.73	14.43	--	--	11.42	14.74	--	--	--	--	10.64	15.52	--	--
MW-114	7 - 17	29.43	--	--	12.24	17.19	--	--	12.05	17.38	--	--	--	--	10.06	19.37	--	--
MW-115/115R	10 - 25	27.15	--	--	17.76	9.39	--	--	17.51	9.64	--	--	--	--	16.50	10.65	--	--
MW-116	5 - 15	13.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117S	5 - 20	21.94	--	--	14.39	7.55	--	--	13.63	8.31	--	--	--	--	9.66	12.28	--	--
MW-117T	35 - 45	21.87	--	--	15.19	6.68	--	--	14.78	7.09	--	--	--	--	13.95	7.92	--	--
MW-117D	60 - 70	21.78	--	--	15.09	6.69	--	--	14.71	7.07	--	--	--	--	13.88	7.90	--	--
MW-118S	3 - 14	15.52	--	--	9.41	6.11	--	--	9.01	6.51	--	--	--	--	8.04	7.48	--	--
MW-118T	39.5 - 49.5	15.30	--	--	10.12	5.18	--	--	9.94	5.36	--	--	--	--	9.63	5.67	--	--
MW-118D	70 - 80	15.15	10.03	5.12	10.00	5.15	10.73	4.42	9.82	5.33	--	--	10.20	4.95	9.47	5.68	--	--
MW-119S	5 - 20	11.74	--	--	4.70	7.04	--	--	4.31	7.43	--	--	--	--	4.16	7.58	--	--
MW-119T	42 - 47	11.67	--	--	6.25	5.42	--	--	6.11	5.56	--	--	--	--	5.80	5.87	--	--
MW-120S	5 - 20	12.54	--	--	4.26	8.28	--	--	4.19	8.35	--	--	--	--	3.54	9.00	--	--
MW-120D	28 - 38	12.45	--	--	3.40	9.05	--	--	4.41	8.04	--	--	--	--	3.10	9.35	--	--
MW-121S	5 - 20	12.44	--	--	6.93	5.51	--	--	5.95	6.49	--	--	--	--	6.77	5.67	--	--
MW-121D	32 - 47	12.81	7.55	5.26	7.41	5.4	8.13	4.68	7.35	5.46	--	--	7.27	5.54	7.01	5.80	--	--
MW-122	4 - 16	16.42	13.16	3.26	13.14	3.28	13.12	3.3	13.12	3.30	--	--	13.04	3.38	13.15	3.27	--	--
GEO-1	5 - 20	25.88	--	--	11.50	14.38	--	--	11.19	14.69	--	--	--	--	10.69	15.19	--	--
GEO-2	5 - 20	26.54	--	--	12.19	14.35	--	--	11.99	14.55	--	--	--	--	11.34	15.20	--	--
GEO-3	5 - 20	25.64	--	--	11.57	14.07	--	--	11.10	14.54	--	--	--	--	9.92	15.72	--	--
GEO-4	4 - 19	21.69	--	--	11.29	10.4	--	--	11.09	10.6	--	--	--	--	10.17	11.52	--	--
GEO-5	5 - 20	20.14	--	--	10.45	9.69	--	--	10.25	9.89	--	--	--	--	9.29	10.85	--	--
GEO-6	5 - 20	17.62	--	--	8.56	9.06	--	--	8.30	9.32	--	--	--	--	7.84	9.78	--	--
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	--	--	13.13	11.14	--	--	12.95	11.32	--	--	--	--	12.41	11.86	--	--
SH-MW2R	10 - 23	24.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	--	--	11.43	10.88	--	--	11.23	11.08	--	--	--	--	10.55	11.76	--	--
MW201	11 - 21	27.51	--	--	13.15	14.36	--	--	12.97	14.54	--	--	--	--	12.40	15.11	--	--
MW202	10.5 - 20.5	27.82	--	--	13.54	14.28	--	--	13.32	14.50	--	--	--	--	12.93	14.89	--	--
MW203	6 - 18	21.80	--	--	13.15	8.65	--	--	12.92	8.88	--	--	--	--	12.05	9.75	--	--
MW203R	13 - 23	24.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW301	5-15	13.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401S	10-20	16.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401D	34-44	16.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW402	20-30	19.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW403	80-90	16.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW404	72.5-82.5	24.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW405	8-18	15.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW406	4-14	13.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW407	4.45-14.45	25.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.
8. NM = Not measured.

Table 7-4. Groundwater Elevations
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	11/19/15		4/27/16		11/21/16		4/14/17		11/8/17		1/31/18		4/2/18		11/15/18	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-101	9 - 19	26.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-102	6 - 16	18.89	--	--	8.02	10.87	--	--	--	--	--	--	7.94	10.95	7.58	11.31	--	--
MW-103	6 - 16	19.47	--	--	11.49	7.98	--	--	--	--	--	--	11.12	8.35	10.81	8.66	--	--
MW-104	5 - 15	17.67	--	--	10.63	7.04	--	--	9.05	8.62	--	--	11.99	5.68	9.21	8.46	--	--
MW-104R	5 - 20	15.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	19 - 29	38.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-107	2 - 12	14.63	--	--	4.49	10.14	--	--	4.51	10.12	--	--	4.56	10.07	4.51	10.12	--	--
MW-108	2 - 12	12.74	--	--	4.11	8.63	--	--	3.78	8.96	--	--	4.02	8.72	4.05	8.69	--	--
MW-109	3 - 13	24.12	--	--	11.25	12.87	--	--	9.86	14.26	--	--	11.02	13.10	10.51	13.61	--	--
MW-110	3 - 13	15.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111	4 - 14	18.95	--	--	11.50	7.45	--	--	Dry	Dry	--	--	Dry	Dry	NF	NF	--	--
MW-111R	5 - 15	18.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112	3 - 10	18.16	--	--	--	--	--	--	6.44	11.72	--	--	--	--	--	--	--	--
MW-112a	4 - 19	17.78	--	--	11.14	6.64	13.12	4.66	12.88	4.90	15.32	2.46	12.85	4.93	--	--	13.09	4.69
MW-113	10 - 20	26.16	--	--	11.65	14.51	--	--	10.83	15.33	--	--	13.90	12.26	11.35	14.81	--	--
MW-114	7 - 17	29.43	--	--	12.45	16.98	--	--	10.70	18.73	--	--	12.89	16.54	11.29	18.14	--	--
MW-115/115R	10 - 25	27.15	--	--	18.23	8.92	--	--	17.33	9.82	--	--	18.17	8.98	17.66	9.49	--	--
MW-116	5 - 15	13.45	--	--	9.34	4.11	--	--	9.18	4.27	--	--	9.22	4.23	9.14	4.31	--	--
MW-117S	5 - 20	21.94	--	--	14.09	7.85	--	--	12.49	9.45	--	--	16.65	5.29	13.07	8.87	--	--
MW-117T	35 - 45	21.87	--	--	15.59	6.28	--	--	14.36	7.51	--	--	17.76	4.11	14.75	7.12	--	--
MW-117D	60 - 70	21.78	--	--	--	--	--	--	12.93	8.85	--	--	12.11	9.67	13.5	8.28	--	--
MW-118S	3 - 14	15.52	--	--	9.30	6.22	--	--	8.37	7.15	--	--	12.17	3.35	8.75	6.77	--	--
MW-118T	39.5 - 49.5	15.30	--	--	10.37	4.93	--	--	9.80	5.5	--	--	12.45	2.85	9.96	5.34	--	--
MW-118D	70 - 80	15.15	11.99	3.16	10.20	4.95	10.42	4.73	9.61	5.54	10.27	4.88	--	--	9.74	5.41	9.23	5.92
MW-119S	5 - 20	11.74	--	--	4.64	7.10	--	--	4.43	7.31	--	--	--	--	4.56	7.18	--	--
MW-119T	42 - 47	11.67	--	--	6.43	5.24	--	--	5.95	5.72	--	--	--	--	6.12	5.55	--	--
MW-120S	5 - 20	12.54	--	--	3.16	9.38	--	--	3.91	8.63	--	--	5.72	6.82	3.97	8.57	--	--
MW-120D	28 - 38	12.45	--	--	3.68	8.77	--	--	3.19	9.26	--	--	6.30	6.15	3.41	9.04	--	--
MW-121S	5 - 20	12.44	--	--	--	--	--	--	7.73	4.71	--	--	7.76	4.68	7.32	5.12	--	--
MW-121D	32 - 47	12.81	8.83	3.98	--	--	7.85	4.96	7.17	5.64	7.75	5.06	7.50	5.31	7.74	5.07	6.79	6.02
MW-122	4 - 16	16.42	13.23	3.19	13.19	3.23	13.21	3.21	13.18	3.24	13.17	3.25	13.19	3.23	13.13	3.29	13.17	3.25
GEO-1	5 - 20	25.88	--	--	11.39	14.49	--	--	10.75	15.13	--	--	--	--	11.11	14.77	--	--
GEO-2	5 - 20	26.54	--	--	12.18	14.36	--	--	11.51	15.03	--	--	--	--	11.83	14.71	--	--
GEO-3	5 - 20	25.64	--	--	--	--	--	--	10.25	15.39	--	--	11.40	14.24	10.79	14.85	--	--
GEO-4	4 - 19	21.69	--	--	11.61	10.08	--	--	10.59	11.1	--	--	11.20	10.49	11.20	10.49	--	--
GEO-5	5 - 20	20.14	--	--	10.94	9.20	--	--	9.81	10.33	--	--	10.44	9.70	10.2	9.94	--	--
GEO-6	5 - 20	17.62	--	--	9.72	7.90	--	--	8.42	9.2	--	--	9.12	8.50	8.67	8.95	--	--
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	--	--	--	--	--	--	--	--	--	--	--	--	12.84	11.43	--	--
SH-MW2R	10 - 23	24.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW201	11 - 21	27.51	--	--	13.15	14.36	--	--	--	--	--	--	15.36	12.15	13.34	14.17	--	--
MW202	10.5 - 20.5	27.82	--	--	13.53	14.29	--	--	--	--	--	--	15.77	12.05	12.86	14.96	--	--
MW203	6 - 18	21.80	--	--	13.93	7.87	--	--	--	--	--	--	15.76	6.04	12.98	8.82	--	--
MW203R	13 - 23	24.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW301	5-15	13.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401S	10-20	16.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401D	34-44	16.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW402	20-30	19.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW403	80-90	16.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW404	72.5-82.5	24.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW405	8-18	15.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW406	4-14	13.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW407	4.45-14.45	25.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.
8. NM = Not measured.

Table 7-4. Groundwater Elevations
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	4/15/19		11/22/19		4/13/20		11/18/20		4/12/21		11/30/21		4/12/22		11/29/22	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-101	9 - 19	26.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-102	6 - 16	18.89	7.21	11.68	--	--	7.37	11.52	--	--	8.13	10.76	--	--	--	--	--	--
MW-103	6 - 16	19.47	7.26	12.21	--	--	10.70	8.77	--	--	11.90	7.57	--	--	--	--	--	--
MW-104	5 - 15	17.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-104R	5 - 20	15.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	19 - 29	38.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	NM- Flooded	--	--	--	--	--	--	--
MW-107	2 - 12	14.63	4.74	9.89	--	--	4.42	10.21	--	--	4.48	10.15	--	--	--	--	--	--
MW-108	2 - 12	12.74	3.95	8.79	--	--	3.86	8.88	--	--	4.05	8.69	--	--	--	--	--	--
MW-109	3 - 13	24.12	10.62	13.5	--	--	10.41	13.71	--	--	11.31	12.81	--	--	--	--	--	--
MW-110	3 - 13	15.58	--	--	--	--	--	--	--	--	1.99	13.59	--	--	--	--	--	--
MW-111	4 - 14	18.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111R	5 - 15	18.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112	3 - 10	18.16	5.05	13.11	--	--	6.75	11.41	--	--	8.06	10.1	--	--	--	--	--	--
MW-112a	4 - 19	17.78	12.3	5.48	13.00	4.78	12.75	5.03	13.08	4.70	13.05	4.73	12.80	4.98	12.55	5.23	12.81	4.97
MW-113	10 - 20	26.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114	7 - 17	29.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-115/115R	10 - 25	27.15	16.96	10.19	--	--	17.89	9.26	--	--	19.4	7.75	--	--	--	--	--	--
MW-116	5 - 15	13.45	8.35	5.1	--	--	9.17	4.28	--	--	9.51	3.94	--	--	9	4.45	--	--
MW-117S	5 - 20	21.94	9.19	12.75	--	--	12.69	9.25	--	--	13.51	8.43	--	--	12.8	9.14	--	--
MW-117T	35 - 45	21.87	14.46	7.41	--	--	16.06	5.81	--	--	16.35	5.52	--	--	16	5.87	--	--
MW-117D	60 - 70	21.78	11.76	10.02	--	--	10.11	11.67	--	--	16.31	5.47	--	--	15.6	6.18	--	--
MW-118S	3 - 14	15.52	9.84	5.68	--	--	8.85	6.67	--	--	8.95	6.57	--	--	9.1	6.42	--	--
MW-118T	39.5 - 49.5	15.30	9.52	5.78	--	--	10.24	5.06	--	--	10.77	4.53	--	--	10.6	4.7	--	--
MW-118D	70 - 80	15.15	9.31	5.84	10.49	4.66	10.09	5.06	10.65	4.5	10.59	4.56	10.55	4.6	10.2	4.95	10.97	4.18
MW-119S	5 - 20	11.74	4.05	7.69	--	--	3.49	8.25	--	--	4.20	7.54	--	--	4.05	7.69	--	--
MW-119T	42 - 47	11.67	5.86	5.81	--	--	6.20	5.47	--	--	6.85	4.82	--	--	6.7	4.97	--	--
MW-120S	5 - 20	12.54	3.85	8.69	--	--	3.35	9.19	--	--	4.30	8.24	--	--	5	7.54	--	--
MW-120D	28 - 38	12.45	3.21	9.24	--	--	3.93	8.52	--	--	3.81	8.64	--	--	4.5	7.95	--	--
MW-121S	5 - 20	12.44	6.8	5.64	--	--	7.72	4.72	--	--	7.73	4.71	--	--	8	4.44	--	--
MW-121D	32 - 47	12.81	6.94	5.87	7.66	5.15	7.40	5.41	8	4.81	8.05	4.76	8.15	4.66	7.7	5.11	8.40	4.41
MW-122	4 - 16	16.42	12.81	3.61	13.15	3.27	13.01	3.41	13.11	3.31	13.02	3.4	13.1	3.32	12.9	3.52	13.15	3.27
GEO-1	5 - 20	25.88	11.1	14.78	--	--	10.40	15.48	--	--	11.01	14.87	--	--	10.85	15.03	--	--
GEO-2	5 - 20	26.54	12.98	13.56	--	--	11.11	15.43	--	--	12.26	14.28	--	--	12.2	14.34	--	--
GEO-3	5 - 20	25.64	11.06	14.58	--	--	10.36	15.28	--	--	ND-Bott at 11.15	--	--	--	--	--	--	--
GEO-4	4 - 19	21.69	10.72	10.97	--	--	11.41	10.28	--	--	12.41	9.28	--	--	--	--	--	--
GEO-5	5 - 20	20.14	7.55	12.59	--	--	11.32	8.82	--	--	12.26	7.88	--	--	--	--	--	--
GEO-6	5 - 20	17.62	8.23	9.39	--	--	11.62	6	--	--	12.21	5.41	--	--	--	--	--	--
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	12.55	11.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2R	10 - 23	24.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW201	11 - 21	27.51	12.92	14.59	--	--	12.00	15.51	--	--	12.69	14.82	--	--	--	--	--	--
MW202	10.5 - 20.5	27.82	13.3	14.52	--	--	12.31	15.51	--	--	12.99	14.83	--	--	12.9	14.92	--	--
MW203	6 - 18	21.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW203R	13 - 23	24.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW301	5-15	13.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401S	10-20	16.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401D	34-44	16.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW402	20-30	19.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW403	80-90	16.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW404	72.5-82.5	24.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW405	8-18	15.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW406	4-14	13.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW407	4.45-14.45	25.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.
8. NM = Not measured.

Table 7-4. Groundwater Elevations
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	4/17/23		11/7/23		4/1/24		9/20/24		11/14/24		12/13/24		1/20/25		3/6/25	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-101	9 - 19	26.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-102	6 - 16	18.89	8.18	10.71	--	--	6.91	11.98	--	--	--	--	--	--	--	--	--	--
MW-103	6 - 16	19.47	--	--	--	--	10.49	8.98	--	--	--	--	--	--	--	--	--	--
MW-104	5 - 15	17.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-104R	5 - 20	15.82	--	--	--	--	15.8	0.02	14.95	0.87	15	0.82	--	--	14.79	1.03	--	--
MW-105	19 - 29	38.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-106	9 - 19	26.33	--	--	--	--	10.45	15.88	--	--	--	--	--	--	--	--	--	--
MW-107	2 - 12	14.63	4.43	10.2	--	--	4.34	10.29	--	--	--	--	--	--	--	--	--	--
MW-108	2 - 12	12.74	4.34	8.4	--	--	3.52	9.22	--	--	--	--	--	--	--	--	--	--
MW-109	3 - 13	24.12	11.49	12.63	--	--	9.75	14.37	--	--	--	--	--	--	--	--	--	--
MW-110	3 - 13	15.58	2.5	13.08	--	--	0.81	14.77	--	--	--	--	--	--	--	--	--	--
MW-111	4 - 14	18.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111R	5 - 15	18.22	--	--	--	--	--	--	--	--	--	--	12.59	5.63	--	--	10.4	7.82
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112a	4 - 19	17.78	12.67	5.11	12.64	5.14	12.64	5.14	--	--	13.16	4.62	--	--	--	--	--	--
MW-113	10 - 20	26.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114	7 - 17	29.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-115/115R	10 - 25	27.15	19.61	7.54	--	--	18.12	9.03	--	--	--	--	--	--	18.5	8.65	--	--
MW-116	5 - 15	13.45	9.03	4.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117S	5 - 20	21.94	11.19	10.75	--	--	11.62	10.32	--	--	--	--	--	--	--	--	--	--
MW-117T	35 - 45	21.87	16.1	5.77	--	--	15.09	6.78	--	--	--	--	--	--	--	--	--	--
MW-117D	60 - 70	21.78	16.07	5.71	--	--	11.61	10.17	--	--	--	--	--	--	--	--	--	--
MW-118S	3 - 14	15.52	9.17	6.35	--	--	8.01	7.51	--	--	--	--	--	--	--	--	--	--
MW-118T	39.5 - 49.5	15.30	10.6	4.7	--	--	9.91	5.39	--	--	--	--	--	--	--	--	--	--
MW-118D	70 - 80	15.15	10.5	4.65	10.62	4.53	9.75	5.4	--	--	11.19	3.96	--	--	--	--	--	--
MW-119S	5 - 20	11.74	5.1	6.64	--	--	4.07	7.67	--	--	--	--	--	--	--	--	--	--
MW-119T	42 - 47	11.67	6.73	4.94	--	--	5.98	5.69	--	--	--	--	--	--	--	--	--	--
MW-120S	5 - 20	12.54	4.31	8.23	--	--	3.42	9.12	--	--	--	--	--	--	--	--	--	--
MW-120D	28 - 38	12.45	3.81	8.64	--	--	3.06	9.39	--	--	--	--	--	--	--	--	--	--
MW-121S	5 - 20	12.44	7.58	4.86	--	--	4.07	8.37	--	--	--	--	--	--	--	--	--	--
MW-121D	32 - 47	12.81	8.05	4.76	NM	NM	7.17	5.64	--	--	8.70	4.11	--	--	--	--	--	--
MW-122	4 - 16	16.42	13.1	3.32	13.12	3.3	13.02	3.4	--	--	13.18	3.24	--	--	--	--	--	--
GEO-1	5 - 20	25.88	11.16	14.72	--	--	9.91	15.97	--	--	--	--	--	--	--	--	--	--
GEO-2	5 - 20	26.54	12.1	14.44	--	--	10.6	15.94	--	--	--	--	--	--	--	--	--	--
GEO-3	5 - 20	25.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GEO-4	4 - 19	21.69	12.83	8.86	--	--	10.71	10.98	--	--	--	--	--	--	--	--	--	--
GEO-5	5 - 20	20.14	12.79	7.35	--	--	10.44	9.7	--	--	--	--	--	--	--	--	--	--
GEO-6	5 - 20	17.62	12.75	4.87	--	--	10.75	6.87	--	--	--	--	--	--	--	--	--	--
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2R	10 - 23	24.56	--	--	--	--	13.54	11.02	--	--	--	--	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW201	11 - 21	27.51	13.84	13.67	--	--	11.62	15.89	--	--	--	--	--	--	--	--	--	--
MW202	10.5 - 20.5	27.82	13.2	14.62	--	--	12.11	15.71	--	--	--	--	--	--	--	--	--	--
MW203	6 - 18	21.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW203R	13 - 23	24.97	--	--	--	--	19.15	5.82	--	--	--	--	--	--	--	--	--	--
MW301	5-15	13.24	--	--	--	--	--	--	--	--	--	--	--	--	9.31	3.93	--	--
MW401S	10-20	16.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW401D	34-44	16.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW402	20-30	19.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW403	80-90	16.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW404	72.5-82.5	24.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW405	8-18	15.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW406	4-14	13.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW407	4.45-14.45	25.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.
8. NM = Not measured.

Table 7-4. Groundwater Elevations
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	3/18/25		3/19/25		4/21/25		4/25/25		11/10/25		1/7/26		2/2/26		2/16/26	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-101	9 - 19	26.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-102	6 - 16	18.89	--	--	--	--	7.65	11.24	--	--	8.02	10.87	--	--	8.48	10.41	--	--
MW-103	6 - 16	19.47	--	--	--	--	11.2	8.27	--	--	5.56	13.91	--	--	12.15	7.32	--	--
MW-104	5 - 15	17.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-104R	5 - 20	15.82	--	--	--	--	14.85	0.97	--	--	14.91	0.91	--	--	14.52	1.3	--	--
MW-105	19 - 29	38.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-106	9 - 19	26.33	--	--	11.14	15.19	11.43	14.9	--	--	11.6	14.73	--	--	11.97	14.36	--	--
MW-107	2 - 12	14.63	--	--	--	--	4.49	10.14	--	--	4.38	10.25	--	--	4.53	10.1	--	--
MW-108	2 - 12	12.74	--	--	--	--	3.89	8.85	--	--	4.85	7.89	--	--	4.52	8.22	--	--
MW-109	3 - 13	24.12	10.93	13.19	--	--	10.65	13.47	--	--	11.58	12.54	--	--	12.39	11.73	--	--
MW-110	3 - 13	15.58	--	--	--	--	0.92	14.66	--	--	--	--	--	--	--	--	--	--
MW-111	4 - 14	18.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111R	5 - 15	18.22	--	--	--	--	10.37	7.85	--	--	11.92	6.30	--	--	11.17	7.05	--	--
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112a	4 - 19	17.78	--	--	--	--	--	--	12.39	5.39	12.25	5.53	--	--	12.35	5.43	--	--
MW-113	10 - 20	26.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114	7 - 17	29.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-115/115R	10 - 25	27.15	--	--	--	--	19.1	8.05	--	--	19.38	7.77	--	--	--	--	--	--
MW-116	5 - 15	13.45	--	--	--	--	8.71	4.74	--	--	8.46	4.99	--	--	8.58	4.87	--	--
MW-117S	5 - 20	21.94	--	--	--	--	9.89	12.05	--	--	10.85	11.09	--	--	10.55	11.39	--	--
MW-117T	35 - 45	21.87	--	--	--	--	15.89	5.98	--	--	16.00	5.87	--	--	16.75	5.12	--	--
MW-117D	60 - 70	21.78	--	--	--	--	16.03	5.75	--	--	16.00	5.78	--	--	17.05	4.73	--	--
MW-118S	3 - 14	15.52	--	--	--	--	8.86	6.66	--	--	9.14	6.38	--	--	9.4	6.12	--	--
MW-118T	39.5 - 49.5	15.30	--	--	--	--	10.43	4.87	--	--	10.30	5.00	--	--	10.71	4.59	--	--
MW-118D	70 - 80	15.15	--	--	--	--	10.26	4.89	--	--	10.15	5.00	--	--	10.56	4.59	--	--
MW-119S	5 - 20	11.74	--	--	--	--	4.64	7.10	--	--	4.60	7.14	--	--	6.91	4.83	--	--
MW-119T	42 - 47	11.67	--	--	--	--	6.51	5.16	--	--	6.50	5.17	--	--	6.72	4.95	--	--
MW-120S	5 - 20	12.54	--	--	--	--	4.04	8.5	--	--	4.35	8.19	--	--	4.48	8.06	--	--
MW-120D	28 - 38	12.45	--	--	--	--	3.6	8.85	--	--	3.70	8.75	--	--	3.94	8.51	--	--
MW-121S	5 - 20	12.44	--	--	--	--	7.65	4.79	--	--	7.55	4.89	--	--	7.67	4.77	--	--
MW-121D	32 - 47	12.81	--	--	--	--	7.72	5.09	--	--	7.85	4.96	--	--	7.95	4.86	--	--
MW-122	4 - 16	16.42	--	--	--	--	13.12	3.3	--	--	12.00	4.42	11.7	4.72	11.96	4.46	--	--
GEO-1	5 - 20	25.88	--	--	--	--	10.9	14.98	--	--	11.09	14.79	--	--	11.43	14.45	--	--
GEO-2	5 - 20	26.54	--	--	--	--	11.64	14.9	--	--	11.84	14.7	--	--	12.21	14.33	--	--
GEO-3	5 - 20	25.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GEO-4	4 - 19	21.69	11.63	10.06	--	--	11.85	9.84	--	--	12.86	8.83	--	--	13.08	8.61	--	--
GEO-5	5 - 20	20.14	11.11	9.03	--	--	11.65	8.49	--	--	12.62	7.52	--	--	12.59	7.55	--	--
GEO-6	5 - 20	17.62	--	--	11.08	6.54	11.38	6.24	--	--	12.15	5.47	--	--	11.79	5.83	--	--
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2R	10 - 23	24.56	--	--	--	--	14.12	10.44	--	--	14.68	9.88	--	--	15.01	9.55	--	--
SH-MW3	10 - 24	22.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW201	11 - 21	27.51	--	--	--	--	12.6	14.91	--	--	12.78	14.73	--	--	13.12	14.39	--	--
MW202	10.5 - 20.5	27.82	--	--	--	--	12.98	14.84	--	--	13.14	14.68	--	--	13.44	14.38	--	--
MW203	6 - 18	21.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW203R	13 - 23	24.97	--	--	--	--	19.3	5.67	--	--	19.87	5.10	--	--	19.17	5.8	--	--
MW301	5-15	13.24	--	--	--	--	4.63	8.61	--	--	4.09	9.15	--	--	--	--	5.59	7.65
MW401S	10-20	16.05	--	--	--	--	--	--	--	--	11.15	4.90	--	--	11.96	4.09	--	--
MW401D	34-44	16.16	--	--	--	--	--	--	--	--	11.25	4.91	--	--	11.4	4.76	--	--
MW402	20-30	19.05	--	--	--	--	--	--	--	--	12.24	6.81	--	--	12.45	6.6	--	--
MW403	80-90	16.31	--	--	--	--	--	--	--	--	12.32	3.99	--	--	12.4	3.91	--	--
MW404	72.5-82.5	24.49	--	--	--	--	--	--	--	--	13.42	11.07	--	--	13.67	10.82	--	--
MW405	8-18	15.12	--	--	--	--	--	--	--	--	4.80	10.32	--	--	5.2	9.92	--	--
MW406	4-14	13.19	--	--	--	--	--	--	--	--	6.10	7.09	--	--	6.77	6.42	--	--
MW407	4.45-14.45	25.89	--	--	--	--	--	--	--	--	--	--	11.7	14.19	12.05	13.84	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.
8. NM = Not measured.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

					GEO-1																													
Sample Location:					GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1
Sample Name:					GEO-1	GEO-1	GEO-1	GEO-1	MW800 (FD)	GEO1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1
Well Screen Interval (ft bgs):					5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:					8/16/04	5/23/06	10/5/06	1/17/07	1/17/07	4/12/07	4/15/08	7/15/08	10/21/08	1/13/09	4/13/09	7/15/09	10/14/09	4/13/10	4/22/11	4/17/12	4/24/13	4/30/14	4/2/15	4/28/16	4/17/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	4/18/23	4/2/24	4/23/25	11/13/25	2/5/26
Collected By:					GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																															
Volatile Organic Compounds (VOCs)	8260	µg/l																																	
Acetone			50000	50000	< 400	< 5.0	< 5.0	< 5.0	< 5.0	9.7	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<50	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene			1000	10000	< 20	< 0.50	< 0.50	< 0.50	< 0.50	0.27 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<2.5	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50
Bromodichloromethane			6	50000	< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			50000	50000	< 200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<50	<10	<10	<10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			NS	NS	< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			2	5,000	< 20	3.6	1.4	2.3	2.3	5.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			200	1,000	< 20	0.76 J	0.86 J	0.76 J	0.84 J	0.77 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			NS	NS	< 40	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<1.0	<1.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Chloroform			50	20,000	< 20	< 1.0	< 1.0	0.60 J	0.61 J	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			NS	NS	< 40	< 2.0	3.7	< 2.0	1.8 J	6.2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<1.0	<1.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			60	8,000	< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			2,000	20,000	< 20	4.3	2.9	5.4	5.6	10.6	< 1.0	0.38 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			5	20,000	< 20	< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 1.0	13.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			80	30,000	39.8	989	1330 E	247	241	8980	3.0	26.2	1.4	1.3	1.7	< 1.0	2.0	< 1.0	7.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			20	50,000	< 20	4.3	2.3	3.3	< 1.0	8.7	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			90	50,000	< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			3	50,000	< 20	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			5,000	50,000	NT	< 25	< 25 R	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	367	< 25	< 50	< 25 K-	< 25	< 100	<630	<130	<130	<500	<250	<250	<250	<250	<250	<250 K-	<250
Ethylbenzene			20,000	5,000	< 20	< 1.0	< 1.0	< 1.0	< 1.0	0.41 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			NS	NS	< 200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<25	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Isopropyl benzene			NS	NS	< 20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
4-Isopropyltoluene			NS	NS	< 20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			50,000	50,000	< 20	64.2	5.3 J+	2.5	2.7	6.9 J+	7.9	< 1.0	< 1.0	0.26 J	1.1	< 1.0	4.8	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			2,000	50,000	< 200	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<10	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			700	20,000	< 20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<25	<5.0	<5.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
n-Propylbenzene			NS	NS	< 20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 2.0	< 2.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Styrene			100	6,000	< 20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tert-amyl methyl ether			NS	NS	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<10	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 20	5.7	3 J	5.7	5.8	15.6	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			20	30,000	1880	18600	19500	17300	18000	48500	135	268	115	76.1	64.3	71.5	698	79.2	2580	171	85.1	252	162	134	1340	70.9	32.9	240	48	25	23	18	33 K+	37 K+	12
Tetrahydrofuran			NS	NS	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	<50	<10	<10	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Toluene			50,000	40,000	< 20	1.2	0.72 J	1.1	0.99 J	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	1720	19100	9620 J+	13300	14200	42500 J+	29.5	217	8.5	9.2	10.0	5.9	16.6 J+	7.0	12.2	3.7	2.1	2.3	3.0	1.3	9.1	<1.0	<1.0	5.8	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0
1,1,2-Trichloroethane			900	50,000	< 20	< 1.0	< 1.0	0.94 J	0.99 J	3.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			5	5,000	898	10000	5530	9090	9660	30600	18.9	70.6	11.0	8.9	8.0	10.1	31.2	8.2	35.6	6.5	4.8	5.9	7.1	5.4	2.2 J	3.60	1.90	3.0	1.7	2.00	2.1	1.8	3.1	2.5	<1.0
1,2,4-Trimethylbenzene			NS	NS	< 20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 2.0	< 2.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Vinyl chloride			2	50,000	< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			3,000	5,000	< 40	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			3,000	5,000	< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			3,000	5,000	ND	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																															
Iron	6010B		NS	NS																															
Manganese	6010B/6010D		NS	NS																															
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																															
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																															
Ethane	8015	µg/l	NS	NS																															
Ethylene	8015	µg/l	NS	NS																															
Alkalinity	E310.1/2320B	µg/l*	NS	NS																															
Chloride	E325.3/9251	µg/l	NS	NS																															
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																															
Iron, Ferrous	3500FE B	µg/l	NS	NS																															
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																															
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																															
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																															
Sodium	6010C	µg/l	NS	NS																															
Sulfate	E375.4/9038	µg/l	NS	NS																															
Sulfide	E376.1	µg/l	NS	NS																															
Surfactants	E425.1/5540C	µg/l	NS	NS																															
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																															

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW-2 Standard	Method 1 GW-3 Standard	Sample Location:	GEO-2																												
					Sample Location:	GEO-2	GEO-2	GEO-2	GEO-2	GEO2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2
					Sample Name:	GEO-2	GEO-2	GEO-2	GEO-2	GEO2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	MW901 (FD)	GEO-2	GEO-2	MW901 (FD)	GEO-2	GEO-2	MW901 (FD)	GEO-2	MW901	GEO-2	MW901	GEO-2
					Well Screen Interval (ft bgs):	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
					Sample Date:	8/16/04	5/23/06	10/5/06	1/17/07	4/12/07	7/15/08	10/22/08	1/13/09	4/13/09	7/15/09	10/14/09	4/13/10	4/21/11	5/1/13	4/30/14	4/2/15	4/29/16	4/29/16	4/18/17	4/4/18	4/4/2018	4/16/2019	4/16/2019	4/17/2020	4/17/2020	4/14/2021	4/14/2021	4/14/2022	4/14/2022	4/14/2022	4/18/2023
					Collected By:	Geolnsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																																
Acetone			50000	50000		487	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene			1000	10000		< 5.0	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane			6	50000		< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			50000	50000		< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			NS	NS		< 25	< 5.0	< 5.0	4.5 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			2	5,000		< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			200	1,000		< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			NS	NS		< 10	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Chloroform			50	20,000		< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	0.62 J	< 1.0	0.60 J	0.84 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.56 J	0.76 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			NS	NS		< 10	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			60	8,000		< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			2,000	20,000		< 5.0	2.2	2.0	< 5.0	2.5	1.1	< 1.0	< 1.0	0.29 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			5	20,000		< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			80	30,000		23.2	14.2	26.3	25.2	11.5	13.4	8.4	7.0	17.0	6.5	10.8	13.8	3.7	7.8	3.8	3.1	4.3	4.9	1.5	1.1	1.1	<1.0	<1.0	2.3	2.6	1.7	1.8	2.6	2.3	3.3
cis-1,2-Dichloroethylene			20	50,000		< 5.0	< 1.0	1.6	9.0	< 1.0	< 1.0	< 1.0	< 1.0	2.8	< 1.0	< 1.0	3.1	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			90	50,000		< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			3	50,000		< 5.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			5,000	50,000		NT	< 25	< 25 R	< 130	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25 K-	< 25	< 25	<130	<130	<130	<130	<130	<250	<250	<250	<250	<250	<250	<250
Ethylbenzene			20,000	5,000		< 5.0	< 1.0	< 1.0	3.1 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			NS	NS		< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Isopropyl benzene			NS	NS		< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
4-Isopropyltoluene			NS	NS		< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			50,000	50,000		37.6	79.9	12.8 J+	9.8	16.5	< 1.0	5.9	0.45 J	< 1.0	0.29 J	0.56 J	< 1.0	< 1.0	4.5	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			2,000	50,000		< 5.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			700	20,000		< 5.0	< 5.0	< 5.0	8.3 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
n-Propylbenzene			NS	NS		< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Styrene			100	6,000		< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tert-amyl methyl ether			NS	NS		NT	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			10	50,000		< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			20	30,000		285	131	693	1420	120	115	140	110	263 G	202	167	480	66.4	140	119	76.3	147	145	50.7	48.5	45.4	26.3	25.6	120	130	86	86	96	84	120
Tetrahydrofuran			NS	NS		NT	< 10	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	< 10	<10	<10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Toluene			50,000	40,000		< 5.0	< 1.0	< 1.0	3.4 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	1.8	1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000		490	125	376	867	147 J+	70.5	25.5	22.5	110	29.7	37.5 J+	61.9	4.3	16.0	15.5	11.4	18.4	20.4	5.2	3.7	3.6	1.1	1.1	9.2	9.5	11	11	17	16	19
1,1,2-Trichloroethane			900	50,000		< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			5	5,000		60	27.3	170	602	36.0	22.8	20.9	19.7	99.7	31.7	33.4	103	14.7	14.3	12.2	9.9	12.7	12.8	7.1	6.1	6.0	4.4	4.2	6.1	6.4	3.8	3.8	4.2	4.0	7.8
1,2,4-Trimethylbenzene			NS	NS		< 5.0	< 5.0	< 5.0	4.7 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Vinyl chloride			2	50,000		< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			3,000	5,000		< 10	< 1.0	< 1.0	11.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			3,000	5,000		< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			3,000	5,000		ND	< 1.0	< 1.0	14.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Petroleum Hydrocarbons (TPH)		mg/L				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l				NT	NT	NT		NT	NT	NT	NT	NT	NT	NT							NT				NT			NT		NT		NT	
Arsenic	6010B		NS	900					< 10								NT	NT	NT	NT	NT	NT		NT	NT		NT			NT		NT		NT
Iron	6010B		NS	NS					< 100								< 100 J+	< 100	< 100	NT	NT	NT		NT	NT		NT			NT		NT		NT
Manganese	6010B/6010D		NS	NS					NT								< 15	< 15	< 15	< 15	< 15	< 15		<15	<15		<15		<10		<10		<10		<10
Metals (Dissolved)	6010C	µg/l				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																														
Others						NT	NT	NT		NT	NT	NT	NT	NT	NT	NT							NT				NT			NT		NT		
Methane	8015	µg/l	NS	NS					< 10								1.58	< 0.30	< 0.30	< 10	< 10	< 10	< 10	<10	<0.11		0.14		<1.0		<2.00		<2.00		<2.00
Ethane	8015	µg/l	NS	NS					< 10								< 0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	<10	<0.23		<0.23		<0.5		<0.500		<0.500		<0.500
Ethylene	8015	µg/l	NS	NS					< 10								< 0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	<10	<0.31		<0.31		<0.5		<0.500		<0.500		<0.500
Alkalinity	E310.1/2320B	µg/l*	NS	NS					104000								44100	50400	64600	69000	48400	50300	50300	34000	32800		221000		28500		28,300		43,400		27,000
Chloride	E325.3/9251	µg/l	NS	NS					1310000								165000	53700	252000	175000	220000	290000	290000	287000	254000		198000		420000		270,000		38,000		270,000
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS					NT								< 50 A	< 50	< 50	< 50 A	< 50 A	< 50	NT	< 50	1130		<100		<20		<20		<20		<20
Iron, Ferrous	3500FE B	µg/l	NS	NS					NT								NT	NT	NT	< 100	< 100	< 100	< 100	<100	<200		<200		<500		<500		<500		<500
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS					7000								6700	4400	3300	1700	1600	1500	1500	1700	2300		1700		630		1,400		770		3,000
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS					7000								6700	4400	3300	1700	1600	1500	1500	1700	2300		1700		629		1,320		755		3,050
Nitrogen, Nitrite	E354.1	µg/l	NS	NS					< 10								< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10		<10		NT		NT		NT		NT
Sodium	6010C	µg/l	NS	NS					NT								NT	NT	NT	NT	NT	NT	NT	NT	NT		NT		NT		NT		NT		NT
Sulfate	E375.4/9038	µg/l	NS	NS					88000								117000	105000	67800	38900	27500	30900	30900	21600	19000		15900		<10000		<10000		<10000		12000
Sulfide	E376.1	µg/l	NS	NS					< 2000								< 2000	< 2000	< 2000	< 2000	< 2000	< 2000	< 2000	< 2000	<2000		<2000		<100		<100		<100		<100
Surfactants	E425.1/5540C	µg/l	NS	NS					< 100								< 100	< 100	< 100	< 100	< 100	< 100	< 100	<100	<100		<100		<50		<50		<50		<50
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS					< 1000								2400	4600	1700	1000	<5000	< 1000	< 1000	<1000	1000		<1000		<500		<500		570		<500

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:					GEO-2 (cont.)										GEO-3							GEO-4									
Sample Location:					GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-3	GEO-3	GEO-3	GEO-3	GEO-3	GEO-3	GEO3	GEO-4	GEO-4	GEO-4	GEO-4	GEO-4	GEO-4	GEO-4	GEO-4	GEO-4	GEO-4
Sample Name:					MW901	GEO-2	MW901	GEO-2	MW901	GEO-2	MW901	GEO-2	MW901	GEO-2	GEO-3	GEO-3	MW900 (FD)	GEO-3	MW900 (FD)	GEO-3	GEO3	GEO-4	GEO-4	GEO-4	GEO-4	GEO-4	GEO-4	GEO-4	GEO-4	GEO-4	GEO-4
Well Screen Interval (ft bgs):					5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19
Sample Date:					4/18/2023	4/4/2024	4/4/2024	4/23/2025	4/23/2025	11/11/2025	11/11/2025	2/3/2026	2/3/2026		8/16/04	5/24/06	5/24/06	10/4/06	10/4/06	1/16/07	4/13/07	8/16/04	5/24/06	10/4/06	1/16/07	4/16/07	4/4/24	3/18/25	11/12/25	2/5/26	
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI		GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																											
Volatile Organic Compounds (VOCs)	8260	µg/l																													
Acetone			50000	50000	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10.0	<10	<10.0		< 1000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2000	< 5.0	< 5.0	< 100	< 50	<120	<200	<1000	<250	
Benzene			1000	10000	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50		< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 100	< 0.50	< 0.50	< 10	< 5.0	<12	<20	<100	<25	
Bromodichloromethane			6	50000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	<25	<40	<100	<50	
2-Butanone (MEK)			50000	50000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1000	< 5.0	< 5.0	< 100	< 50	<120	<200	<1000	<250	
Carbon disulfide			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 50	<80	<500	<100		
Carbon tetrachloride			2	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	<25	<40	<100	<50	
Chlorobenzene			200	1,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	<25	<40	<100	<50	
Chloroethane			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 100	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 200	< 2.0	< 2.0	< 40	< 20	<50	<80	<200	<100	
Chloroform			50	20,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	2.5	< 20	< 10	<25	<40	<200	<50	
Chloromethane			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 100	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 200	< 2.0	< 2.0	< 40	< 20	<50	<80	<200	<100	
1,4-Dichlorobenzene			60	8,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	<25	<40	<100	<50	
1,1-Dichloroethane			2,000	20,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 1.0	< 1.0	11.6	11.6	2.6	< 1.0	< 100	2.7	7.1	< 20	< 10	<25	<40	<100	<50	
1,2-Dichloroethane			5	20,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	<25	<40	<100	<50	
1,1-Dichloroethylene			80	30,000	2.7	1.2	1.1	<1.0	<1.0	1.5	1.6	5.6	5.4		108	< 1.0	< 1.0	59.3	59.1	11.5	1.4	< 100	6.1	17.8	< 20	< 10	<25	<40	<100	<50	
cis-1,2-Dichloroethylene			20	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	3.8	3.5	<1.0	<1.0		< 5.0	< 1.0	< 1.0	2.8	2.6	1.2	< 1.0	< 100	6.3	16.7	< 20	5.5 J	<25	<40	<100	<50	
trans-1,2-Dichloroethylene			90	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	<25	<40	<100	<50	
1,2-Dichloropropane			3	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 100	< 2.0	< 2.0	< 40	< 20	<25	<40	<100	<50	
1,4-Dioxane			5,000	50,000	<250	<250	<250	<250	<250	<50	<50	<50	<50		NT	< 25	< 25	< 25 R	< 25 R	< 25	< 25	NT	< 25	< 25 R	< 5.0	< 250	<6200	<10000	<10000	<12000	
Ethylbenzene			20,000	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	<25	<40	<100	<50	
2-Hexanone			NS	NS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1000	< 5.0	< 5.0	< 100	< 50	<120	<200	<200	<250	
Isopropyl benzene			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	< 5.0	< 100	< 50	<50	<80	<100	<100	
4-Isopropyltoluene			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	< 5.0	< 100	< 50	<50	<80	<100	<100	
Methyl tert-butyl ether			50,000	50,000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 5.0	< 1.0	< 1.0	1.2 J+	1.1 J+	< 1.0	< 1.0	< 100	< 1.0	1.5 J+	< 20	< 10	<50	<80	<100	<100	
Methylene chloride			2,000	50,000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 2.0	< 1000	< 2.0	< 2.0	< 40	< 20	<50	<80	<100	<100	
Naphthalene			700	20,000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	< 5.0	< 100	< 50	<50	<80	<100	<100	
n-Propylbenzene			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	< 5.0	< 100	< 50	<50	<80	<100	<100	
Styrene			100	6,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	< 5.0	< 100	< 50	<25	<40	<100	<100	
Tert-amyl methyl ether			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 40	< 20	<50	<80	<100	<100	
1,1,1,2-Tetrachloroethane			10	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	0.84 J	< 100	< 50	<25	<40	<100	<50	
Tetrachloroethylene (PCE)			20	30,000	120	58	57	34 K+	34 K+	69	69	170	170		4020	162	157	2720	2340	529	93.2	12900	6690	24100	16700	8240	3600	6500	8500	5800	
Tetrahydrofuran			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		NT	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 200	< 100	<50	<80	<100	<100	
Toluene			50,000	40,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	<25	<40	<100	<50	
1,1,1-Trichloroethane (TCA)			4,000	20,000	16	3.9	3.8	2.3	2.2	7.1	6.9	32.0	32.0		204	4.0	4.4	78.2 J+	77.2 J+	16.2	< 1.0	1170	113	321 J+	113	70.9	<25	<40	<100	<50	
1,1,2-Trichloroethane			900	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	<25	<40	<100	<50	
Trichloroethylene (TCE)			5	5,000	6.8	7.1	7.1	4.6	4.7	7.8	8.0	7.4	7.6		507	14.4	14.1	209	207	70.2	10.0	720	86.8	235	129	74.8	26	47	<100	<100	
1,2,4-Trimethylbenzene			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	< 5.0	< 100	< 50	<50	<80	<100	<100	
Vinyl chloride			2	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	<25	<40	<100	<50	
m,p-Xylene			3,000	5,000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 1.0	< 1.0	< 20	< 10	<50	<80	<200	<100	
o-Xylene			3,000	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	<25	<40	<100	<50	
Total Xylene			3,000	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		ND	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND	< 1.0	< 1.0	< 20	< 10	<25	<40	<100	<50	
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Metals (Total)		µg/l			NT	NT	NT		NT		NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Arsenic	6010B		NS	900				NT		NT																				
Iron	6010B		NS	NS				NT		NT																				
Manganese	6010B/6010D		NS	NS				<10		55.5																				
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Iron			NS	NS																										
Others					NT		NT		NT		NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Methane	8015	µg/l	NS	NS		<3.0		<5.0		<2.6																				
Ethane	8015	µg/l	NS	NS		<3.0		<3.0		<5.2																				
Ethylene	8015	µg/l	NS	NS		<3.0		<3.0		<6.5																				
Alkalinity	E310.1/2320B	µg/l*	NS	NS		32,300		40500		31600																				
Chloride	E325.3/9251	µg/l	NS	NS		200,000		130000		200000																				
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS		<20		<20		<20																				
Iron, Ferrous	3500FE B	µg/l	NS	NS		<500		<500		<500																				
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS		5300		7600		5600																				
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS		5290		6950		5630																				
Nitrogen, Nitrite	E354.1	µg/l	NS	NS		NT		NT		NT																				
Sodium	6010C	µg/l	NS	NS		NT		NT		NT																				
Sulfate	E375.4/9038	µg/l	NS	NS		16000		20000		18000																				
Sulfide	E376.1	µg/l	NS	NS		<50		<2000		<2000																				
Surfactants	E425.1/5540C	µg/l	NS	NS		<50		<50		<50																				
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS		<500		790		1000																				

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW-2 Standard	Method 1 GW-3 Standard	GEO-5 5 to 20 8/16/04 GeoInsight	GEO-5 5 to 20 5/24/06 GEI	GEO-5 5 to 20 10/4/06 GEI	GEO-5 5 to 20 1/16/07 GEI	GEO-5 5 to 20 4/16/07 GEI	GEO-5 5 to 20 4/3/24 GEI	GEO-5 5 to 20 3/18/25 GEI	GEO-5 5 to 20 11/12/25 GEI	GEO-5 5 to 20 2/5/26 GEI	GEO-5 5 to 20 3/10/26 GEI	GEO-6 5 to 20 8/16/04 GeoInsight	GEO-6 5 to 20 5/24/06 GEI	GEO-6 5 to 20 10/4/06 GEI	GEO-6 5 to 20 1/16/07 GEI	GEO-6 MW900 (FD) 5 to 20 1/16/07 GEI	GEO-6 5 to 20 4/16/07 GEI	GEO-6 MW901 (FD) 5 to 20 4/16/07 GEI	GEO-6 5 to 20 4/3/24 GEI	GEO-6 5 to 20 3/19/25 GEI	GEO-6 5 to 20 11/12/25 GEI	GEO-6 5 to 20 2/3/26 GEI	MW-1 Unknown 7/1/02 SHA	MW-1 Unknown 8/9/04 GeoInsight	MW-1 Unknown 5/23/06 GEI	MW-1 Unknown 1/17/07 GEI	MW1 Unknown 4/17/07 GEI	MW-101 9 to 19 5/24/06 GEI	MW101 9 to 19 10/5/06 GEI	MW101 9 to 19 1/17/07 GEI	MW101 9 to 19 4/13/07 GEI	MW900 9 to 19 4/13/07 GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																																	
Acetone			50000	50000	< 2000	< 5.0	< 5.0	< 250	< 5.0	<5.0	<25	<10	<120	< 5.0	< 200	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	<50	<50	<50	<100	< 5.000	< 40000	40.0	36.1	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene			1000	10000	< 100	< 0.50	< 0.50	< 25	< 0.50	<0.5	<2.5	<2.5	<12	< 0.50	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	<5	<5.0	<5.0	<10	< 5.00	< 2000	2.0	< 0.50	< 250	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 5.00	< 2000	< 1.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000	< 1000	< 5.0	< 5.0	< 250	< 5.0	<5.0	<25	<25	<120	< 5.0	< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	<50	<50	<50	<100	< 5.000	< 4000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS	< 5.0	< 5.0	< 5.0	< 250	< 5.0	<2.0	<10	<10	<50	< 2.0	< 5.0	< 5.0	< 5.0	0.81 J	< 5.0	< 10	< 5.0	<20	<20	<20	<40	< 5.000	< 10000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5,000	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 5.00	< 2000	19.0	22.4	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1,000	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 5.00	< 2000	1.1	1.2	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS	< 200	< 2.0	< 2.0	< 100	< 2.0	<2.0	<10	<10	<50	< 2.0	< 20	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	<20	<20	<20	<40	< 10000	< 4000	< 2.0	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20,000	< 100	< 1.0	0.62 J	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 7500	< 2000	3.7	1.6	< 500	1.8	< 1.0	< 1.0	< 1.0	1.8
Chloromethane			NS	NS	< 200	< 2.0	< 2.0	< 100	< 2.0	<2.0	<10	<10	<50	< 2.0	< 20	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	<20	<20	<20	<40	< 25000	< 4000	< 2.0	14.6	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8,000	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 25000	< 2000	< 1.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2,000	20,000	< 100	3.0	9.7	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	< 10	2.0	4.4	1.7	1.6	0.92 J	1.1	<10	<10	<10	<20	< 7500	< 2000	59.8	59.9	< 500	< 1.0	< 1.0	< 1.0	< 1.0	1.6
1,2-Dichloroethane			5	20,000	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 5.00	< 2000	4.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	3.9 G	< 1.0
1,1-Dichloroethylene			80	30,000	< 100	8.9	32.7	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	< 10	4.6	11.0	4.4	3.2	2.8	3.8	<10	<10	<10	<20	< 5.00	< 2000	11500	1260	2290	8.7	21.1	14.1	< 1.0	4.6 G
cis-1,2-Dichloroethylene			20	50,000	< 100	12.5	35.2	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	14.8	9.1	15.4	7.7	6.9	5.3	6.3	<10	<10	<10	<20	< 5.00	< 2000	24.3	7.7	< 500	< 1.0	< 1.0	1.3	< 1.0	2.1 G
trans-1,2-Dichloroethylene			90	50,000	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 7500	< 2000	< 1.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50,000	< 100	< 2.0	< 2.0	< 100	< 2.0	<1.0	<5.0	<5.0	<25	< 1.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	<10	<10	<10	<20	< 18000	< 2000	4.5	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5,000	50,000	NT	< 25	< 25 R	< 1300	< 25	<250	<1200	<1200	<6200 F-	< 250	NT	< 25	< 25 R	< 25	< 25	< 5.0	< 25	<2500	<2500	<1000	<5000	NT	NT	< 25 R	< 25	< 13000	< 25	< 25 R	< 25	< 25	< 25
Ethylbenzene			20,000	5,000	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 5.00	< 2000	2.8	4.4	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	< 1000	< 5.0	< 5.0	< 250	< 5.0	<5.0	<25	<25	<25	< 5.0	< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	<50	<50	<50	<100	< 5.000	< 20000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropyl benzene			NS	NS	< 100	< 5.0	< 5.0	< 250	< 5.0	<2.0	<10	<10	<50	< 2.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	<20	<20	<20	<40	< 5.00	< 2000	< 5.0	0.84 J	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS	< 100	< 5.0	< 5.0	< 250	< 5.0	<2.0	<10	<10	<50	< 2.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	<20	<20	<20	<40	< 5.00	< 2000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50,000	50,000	< 100	1.3	3.3 J+	< 50	< 1.0	<2.0	<10	<10	<50	< 2.0	< 10	1.3	1.9 J+	1.2	1.2	0.80 J	0.81 J	<20	<20	<20	<40	< 10000	< 2000	< 1.0 J+	< 1.0	< 500	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
Methylene chloride			2,000	50,000	< 1000	< 2.0	< 2.0	< 100	< 2.0	<2.0	<10	<10	<50	<2.0	< 100	< 2.0	< 2.0	< 2.0	1.3 J	2.5 J	< 2.0	<20	<20	<20	<40	< 5.000	< 20000	< 2.0	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20,000	< 100	< 5.0	< 5.0	< 250	< 5.0	<2.0	<10	<10	<50	< 2.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	<20	<20	<20	<40	< 5.000	< 2000	< 5.0	2.4 J	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene			NS	NS	< 100	< 5.0	< 5.0	< 250	< 5.0	<2.0	<10	<10	<50	< 2.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	<20	<20	<20	<40	< 5.00	< 2000	0.42 J	1.8 J	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene			100	6,000	< 100	< 5.0	< 5.0	< 250	< 5.0	<1.0	<5.0	<5.0	<5.0	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	<10	<10	<10	<20	< 5.00	< 2000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS	NT	< 2.0	< 2.0	< 100	< 2.0	<2.0	<10	<10	<50	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	<20	<20	<20	<40	NT	NT	< 2.0	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 100	< 5.0	< 5.0	< 250	< 5.0	<1.0	<5.0	<5.0	<25	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	<10	<10	<10	<20	< 5.00	< 2000	38.1	22.8	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30,000	14400	2440	12900	254 F+	17.9	100	690	170	2300	2.6	782	675	1980	632	594 F+	618	497	1900	1300	2500	1600	52000	24200	34400	74900	49600	163	171	192	94.0	90.7
Tetrahydrofuran			NS	NS	NT	< 10	< 10	< 500	< 10	<2.0	<10	<10	<50	< 2.0	NT	< 10	< 10	< 10	< 10	< 20	< 10	<20	<20	<20	<40	NT	NT	< 10	< 10	< 5000	< 10	< 10	< 10	< 10	< 10
Toluene			50,000	40,000	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 7500	< 2000	19.6	15.3	< 500	< 1.0	< 1.0	< 1.0	0.38 J	< 1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	646	246	652	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	27.8	42.5	77.2 J+	33.7	25.3	21.2	26.8	<10	<10	<10	<20	290000	112000	255000	135000	151000	110	146	131	50.5 J+	43.0 J+
1,1,2-Trichloroethane			900	50,000	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 7500	< 2000	85.8	16.2	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5,000	404	146	446	< 50	< 1.0	2.0	10.0	2.8	32.0	< 1.0	122	78.8	131	75.3	56.5	55.5	70.5	37	35	58	38	220000	128000	175000	120000	103000	50.5	30.2	38.4	47.2	45.7
1,2,4-Trimethylbenzene			NS	NS	< 100	< 5.0	< 5.0	< 250	< 5.0	<2.0	<10	<10	<50	< 2.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	<20	<20	<20	<40	< 25000	< 2000	1.3 J	4.2 J	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl chloride			2	50,000	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 10000	< 2000	< 1.0	1.2	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			3,000	5,000	< 200	< 1.0	< 1.0	< 50	< 1.0	<2.0	<10	<10	<50	< 2.0	< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<20	<20	<20	<40	< 5.00	< 4000	4.8	5.9	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3,000	5,000	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 5.00	< 2000	9.2	13.8	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3,000	5,000	ND	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 1.0	ND	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	ND	ND	14.0	19.7	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900														< 10	< 10																
Iron	6010B		NS	NS														< 100	< 100																
Manganese	6010B/6010D		NS	NS														NT	NT																
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																															
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS														< 10	< 10																
Ethane	8015	µg/l	NS	NS														< 10	< 10																
Ethylene	8015	µg/l	NS	NS														< 10	< 10																
Alkalinity	E310.1/2320B	µg/l*	NS	NS														134000	133000																
Chloride	E325.3/9251	µg/l	NS	NS														825000	825000																
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS														NT	NT																
Iron, Ferrous	3500FE B	µg/l	NS	NS														NT	NT																
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS														3500	3500																
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS														3500	3500																
Nitrogen, Nitrite	E354.1	µg/l	NS	NS														< 10	< 10																
Sodium	6010C	µg/l	NS	NS														NT	NT																
Sulfate	E375.4/9038	µg/l	NS	NS														45800	45500																
Sulfide	E376.1	µg/l	NS	NS														< 2000	< 2000																
Surfactants	E425.1/5540C	µg/l	NS	NS														< 100	< 100																
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS														< 1000	< 1000																

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW102											MW103										MW104									
Sample Location:					MW-102	MW102	MW102	MW102	MW102	MW102	MW102	MW102	MW102	MW102	MW102	MW103	MW103	MW103	MW-103	MW103	MW103	MW103	MW103	MW103	MW103	MW103	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104
Sample Name:					MW-102	MW102	MW-102	MW102	MW102	MW102	MW102	MW102	MW102	MW102	MW102	MW-103	MW103	MW103	MW-103	MW103	MW103	MW103	MW103	MW103	MW103	MW103	MW-104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104
Well Screen Interval (ft bgs):					6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15
Sample Date:					5/24/06	10/5/06	1/16/07	4/13/07	7/18/07	10/10/07	1/10/08	4/17/08	4/3/24	4/23/25	11/11/25	5/24/06	8/7/06	10/5/06	1/16/07	1/18/07	4/13/07	4/3/24	4/23/25	11/11/25	2/3/26	2/3/26	5/23/06	10/5/06	1/16/07	4/13/07	7/19/07	10/15/07	1/11/08	4/15/08	7/15/08	10/21/08
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																															
Volatile Organic Compounds (VOCs)	8260	µg/l																																	
Acetone			50000	50000	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	<5.0	<5.0	<10	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	<5.0	<5.0	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	4.0 J	< 5.0	< 5.0
Benzene			1000	10000	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 1.0	< 0.50	< 0.50	<0.5	<0.50	<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	<0.5	<0.50	<0.50	<0.50	< 0.50	0.60	< 0.50	< 0.50	NT	0.43 J	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	0.31 J	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	<5	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	<5	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1,000	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	<2.0	<2.0	<2.0	<2.0	2.7	10.3	6.1	4.7	6.9	5.6	2.3	< 2.0	3.9	5.9
Chloroform			50	20,000	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	0.65 J	0.62 J	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 4.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2,000	20,000	< 1.0	0.88 J	< 1.0	< 1.0	0.42 J	2.1	4.1	0.51 J	<1.0	<1.0	<1.0	<1.0	27.2	3.7	13.0	11.5	10.1	7.9	<1.0	<1.0	<1.0	<1.0	33.0	98.9	57.1	46.8	68.3	86.6	38.7	33.0	71.5	74.3
1,2-Dichloroethane			5	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30,000	6.3	50.2	30	< 1.0	23.6	39.7	51.8	22.2 C+	<1.0	<1.0	<1.0	<1.0	13.4	2.0	6.5	4.3	4.3	8	<1.0	<1.0	<1.0	<1.0	3.3	9.4	2.9	10	2.6	4.5	1.7	1.8	5.1	2.4
cis-1,2-Dichloroethylene			20	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	3.0	2.5	< 1.0	< 1.0	< 5.0	<1.0	<1.0	1	<1.0	198	435	244	250	194	279	148	145	203	192 F-
trans-1,2-Dichloroethylene			90	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	2.2	9.3	6.2	3.6	2.5	4.1	3.5	2.0	3.2	2.7
1,2-Dichloropropane			3	50,000	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 4.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5,000	50,000	< 25	< 25 R	< 25	< 25	NT	< 50	< 25	< 25	<250	<250	<50	<250	< 25	< 25	< 25 R	< 25	< 25	< 130	<250	<250	<50	<50	< 25	< 25 R	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropyl benzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50,000	50,000	< 1.0	4.5 J+	2.7	< 1.0	NT	17.3	24.2	1.7 C+	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	0.65 J J+	< 1.0	< 1.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 1.0	10.0 J+	1.0	0.93 J J+	NT	7.2	1.1	0.72 J	3.9	2.4
Methylene chloride			2,000	50,000	< 2.0	< 2.0	< 2.0	< 2.0	NT	4.3	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20,000	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene			100	6,000	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 4.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0 F+	< 25	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30,000	200	898	692	20.3	524	685	606	438 C+	13	5.5	35	66	2600	592	1510	1200 F+	1250 F-	1510	43	27	53	48	60.4	160	29.3	39.6	31.2	49.3	12.1	22.4	16.8	22.8
Tetrahydrofuran			NS	NS	< 10	< 10	< 10	< 10	NT	< 20	< 10	< 10	<2.0	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10	< 10	< 50	<2.0	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10
Toluene			50,000	40,000	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	< 1.0	65.7 J+	32.6	< 1.0	26.3	69.8	121	21.9 C+	<1.0	<1.0	<1.0	<1.0	34.0	4.4	14.4 J+	17.6	21.0	< 5.0	<1.0	<1.0	<1.0	<1.0	21.0	138 J+	23.2	5.6 J+	28.0	89.8	12.5	10.8	42.9	26.1
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5,000	15.6	89.1	57.0	2.0	46.1	61.0	65.3	35.6 C+	1.3	<1.0	3.3	4.5	109	24.0	60.4	37.0	38.0	58.7	3.5	2.3	5.5	3.2	63.4	110	49.1	51.4	40.4	< 1.0	27.0	34.9	37.1	38.2
1,2,4-Trimethylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	0.34 J	< 5.0	< 5.0	< 5.0
Vinyl chloride			2	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	23.7	36.4	47.4	40.4	38.2	68.0	26.4	29.9	41.8 F+	42.6
m,p-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																		< 10														
Iron	6010B		NS	NS																		< 100														
Manganese	6010B/6010D		NS	NS																		NT														
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																															
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																		< 10														
Ethane	8015	µg/l	NS	NS																		< 10														
Ethylene	8015	µg/l	NS	NS																		< 10														
Alkalinity	E310.1/2320B	µg/l*	NS	NS																		53500														
Chloride	E325.3/9251	µg/l	NS	NS																		675000														
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																		NT														
Iron, Ferrous	3500FE B	µg/l	NS	NS																		NT														
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																		8900														
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																		8900														
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																		16														
Sodium	6010C	µg/l	NS	NS																		NT														
Sulfate	E375.4/9038	µg/l	NS	NS																		65700														
Sulfide	E376.1	µg/l	NS	NS																		< 2000														
Surfactants	E425.1/5540C	µg/l	NS	NS																		< 100														
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																		1700														

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW104 (cont.)												MW104R							MW105									
Sample Location:					MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104R	MW104R	MW104R	MW104R	MW104R	MW104R	MW104R	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105
Sample Name:					MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104R	MW104R	MW104R	MW104R	MW104R	MW104R	MW104R	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105
Well Screen Interval (ft bgs):					5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29
Sample Date:					1/14/09	4/14/09	7/15/09	10/14/09	4/12/10	4/21/11	4/17/12	4/24/13	4/30/14	4/2/15	4/29/16	4/17/17	4/28/17	4/4/18	4/4/24	9/20/24	11/14/24	1/20/25	4/23/25	11/10/25	2/3/26	5/24/06	10/5/06	1/17/07	4/16/07	7/19/07	10/10/07	1/9/08	4/18/08	7/14/08
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																													
Volatile Organic Compounds (VOCs)	8260	µg/l														NT																	
Acetone			50000	50000	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	9.0	4.8	< 10	< 10	< 10	< 10		<10	<10	<50	< 25	< 25	<25	<25	<100	<100 G	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0
Benzene			1000	10000	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		<0.50	<0.50	<5	< 2.5	< 2.5	<2.5	<2.5	<2.5	<2.5	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 1.0	< 1.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<10	<10	<50	< 25	< 25	<25	<25	<25	<25 K-	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<2.0	<2.0	<20	< 10	< 10	<10	<10	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS	< 2.0	< 2.0	2.8	4.2	< 2.0	< 2.0	2.6	1.9 J	< 2.0	< 2.0	< 2.0		<1.0	<1.0	<20	< 10	< 10	<10	<10	<10	<10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<1.0	<1.0	<20	< 10	< 10	<10	<10	<10	<10	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2,000	20,000	33.2	37.9	47.1	73.9	19.6	24.3	< 1.0	28.4	27.1	9.7	38.1		21.1	25.4	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			5	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30,000	2.6	2.1	2.2	3.6	1.9	6.1	1.1	1.9	0.95 J	0.40 J	1.40		0.64 J	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			20	50,000	189	236 F-	212	334	112	154	67.3	93.6	95.2	49.8	77.3		83.9	67.6	12	20	12	13	8.9	<10	13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			90	50,000	2.4	3.0	2.6	2.6	1.1	6.4	< 1.0	3.1	2.3	0.64 J	1.1		1.5	1.2	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5,000	50,000	< 25	< 25	< 25	< 25	< 25	< 25	< 25 F- K-	< 50	< 25 K-	< 25	< 25		<130	<130	<2500	< 1200	< 1200	<1200	<1200	<500	<500 G	< 25	< 25 R	< 25	< 25	NT	< 25	< 25	< 25	< 25
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<5.0	<5.0	<50	< 25	< 25	<25	<25	<25	<25	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0
Isopropyl benzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		< 1.0	< 1.0	<20	< 10	< 10	<10	<10	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<2.0	<2.0	<20	< 10	< 10	<10	<10	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50,000	50,000	0.63 J	< 1.0	0.98 J	1.8	< 1.0	< 1.0	0.90 J	< 1.0	< 1.0	< 1.0	0.61 J		<1.0	<1.0	<20	< 10	< 10	<10	<10	<10	<10	< 1.0	< 1.0 J+	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			2,000	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<2.0	<2.0	<20	< 10	< 10	<10	<10	<10	<10	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20,000	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<5.0	<5.0	<20	< 10	< 10	<10	<10	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		< 2.0	< 2.0	<20	< 10	< 10	<10	<10	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0
Styrene			100	6,000	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		< 1.0	< 1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<2.0	<2.0	<20	< 10	< 10	<10	<10	<10	<10	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30,000	22.6	19.3	22.0	16.9	14	14.8	11.9	9.7	10.1	10.7	6.5		15.1	10.7	2200	510	620	690	1700	790	420	7.8	0.69 J	0.67 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			NS	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10		<10	<10	<20	< 10	< 10	<10	<10	<10	<10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10
Toluene			50,000	40,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	13.3	11.8 F+	19.2	24.3 J+	4.4	5.1	11.4	4.3	5.1	2.8	8.6		4.1	3.7	<10	6.6	5.4	6.8	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5,000	44.8	53.7 F+	44.4	43.7	24.3	26.4	13.9	14.1	16.3	15.6	12.4		21.3	15	31	19	22	28	25	24	18	< 1.0	3.4	3.2	1.5	1.5	1.6	2.2	1.7	1.7
1,2,4-Trimethylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		< 2.0	< 2.0	<20	< 10	< 10	<10	<10	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl chloride			2	50,000	50.1	66.5	57.0	107.0	34.9	53.9	39.3	28.9	51.7	11.8	16.1		9.6	16.4	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<20	< 10	< 10	<10	<10	<10	<10	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT									NT			NT	NT	NT			NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900					NT	NT	NT	NT	NT	NT	NT	NT		NT	NT				NT	NT									
Iron	6010B		NS	NS					2900 J+	11800	10700	15300	8970	NT	NT	NT		NT	NT				NT	NT									
Manganese	6010B/6010D		NS	NS					1510	3000	2590	2860	1570	154	2440	1150		1950	10.1				<10	<10									
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS									9890																			
Others					NT	NT	NT	NT									NT			NT	NT	NT			NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS					159	184	724	252	185	<10	20.2	29.9		54.8	<3.00				5.0	<2.6									
Ethane	8015	µg/l	NS	NS					1.77	2.0	5.4	3.6	3.2 J	<10	< 10	<10		2	<3.00				<3.00	<5.2									
Ethylene	8015	µg/l	NS	NS					0.87	1.1	11.6	4.92	3.8 J	<10	2.3 J	<10		1.6	<3.00				<3.00	<6.5									
Alkalinity	E310.1/2320B	µg/l*	NS	NS					338000	373000	464000	413000	393000	298000	319000	429000		336000	138000				164000	150000									
Chloride	E325.3/9251	µg/l	NS	NS					32500	189000	100000	247000	82500	74500	125000	33700		145000	240000				360000	350000									
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS					< 50 A	< 50	< 50 R	< 50 A F-	< 50 A	< 50 A	< 50	< 50		1700	<20				<20	<20									
Iron, Ferrous	3500FE B	µg/l	NS	NS					NT	NT	NT	NT	4800	<100	4600	1200		2400	<500				<500	<500									
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS					120	320	200	280	150	390	< 110	<110		2600	1800				2900	2800									
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS					120	320	200	280	150	390	< 100	<100		2600	1800				2750	2810									
Nitrogen, Nitrite	E354.1	µg/l	NS	NS					< 10	< 10	< 10	< 10	< 10	<10	< 10	<10		<10	NT				NT	NT									
Sodium	6010C	µg/l	NS	NS					NT	NT	NT	NT	46400	NT	NT	NT		NT	NT				NT	NT									
Sulfate	E375.4/9038	µg/l	NS	NS					41700	45300	29300	52400	104000	62800	232000	113000		139000	120000				84000	19000									
Sulfide	E376.1	µg/l	NS	NS					< 2000	< 2000	< 2000	< 2000	< 2000	< 2000	< 2000	< 2000		<2000	<50				<2000	<2000									
Surfactants	E425.1/5540C	µg/l	NS	NS					< 100	120	190	< 100	< 100	<100	110	<100		130	<50				<50	<50									
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS					5900	7400	9800	8500	7500	7000	8600	6600		8200	630				<500	<500									

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW105 (cont.)										MW106										MW107									
Sample Location:					MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW107	MW107	MW107	MW107	MW107	MW107	MW107	MW107	MW107	MW107
Sample Name:					MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW107	MW107	MW107	MW107	MW107	MW107	MW107	MW107	MW107	MW107
Well Screen Interval (ft bgs):					19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12
Sample Date:					10/22/08	1/12/09	4/13/09	7/14/09	10/14/09	4/12/10	4/20/11	4/17/12	4/23/13	1/18/07	4/13/07	7/19/07	10/10/07	1/10/08	4/17/08	4/3/24	3/19/25	11/12/25	2/3/26	1/18/07	4/13/07	7/18/07	10/10/07	1/10/08	4/17/08	4/2/24	4/22/25	11/12/25	2/5/26
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																														
Volatile Organic Compounds (VOCs)	8260	µg/l																																
Acetone			50000	50000	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	NT	69.9	< 5.0	9.2	<5.0	<5.0	<10	6.6
Benzene			1000	10000	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	<0.5	<0.50	<0.50	<0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	<0.5	<0.50	<0.50	<0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	NT	7.7	< 5.0	1.1 J	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			2	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 G	< 1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			200	1,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	<2.0	<2.0	<2.0	<2.0
Chloroform			50	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	1.2	NT	0.56 J	0.39 J	1.7	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	2.5	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			2,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	4.6	4.3	0.52 J	< 1.0	2.1	3.4	1.1	<1.0	<1.0	<1.0
1,2-Dichloroethane			5	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			80	30,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.4	6.3	3.4	3.9	4.1	1.5	1.1	1.3	1.6	1.2	3.2	3.7	< 1.0	< 1.0	1.3 G	2.3	<1.0	<1.0	2.2	1.1
cis-1,2-Dichloroethylene			20	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			90	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			3	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			5,000	50,000	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25 K-	< 50	< 25	< 25	NT	< 25	< 25	< 25	<250	<250	<250	<250	< 25	< 25	NT	< 25	< 25	< 25	<250	<250	<50	<250 F-
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0
Isopropyl benzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			50,000	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	12.2	12.1	NT	252	78.0	4.9	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	NT	< 1.0	0.21 J	< 1.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			2,000	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			700	20,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0
n-Propylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0
Styrene			100	6,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	2.2	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			20	30,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.53 J	1.0 F-	1.2	2.3	1.7	2.3	0.44 J	<1.0	<1.0	1	<1.0	< 1.0 F-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			NS	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	<2.0	<2.0	<2.0	<2.0	< 10	< 10	NT	< 10	< 10	< 10	<2.0	<2.0	<2.0	<2.0
Toluene			50,000	40,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	110	0.40 J	< 1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	15.3	1.5 J+	6.4	11.3	14.9	2.3	2.4	3.5	4.4	3.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			5	5,000	1.8	1.7	2.3	1.6	0.78 J	1.1	1.8	1.7	1.6	3.7	4.8	3.6	4.4	4.9	1.2	1.7	2.3	3.3	2.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0
Vinyl chloride			2	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900										< 10										< 10										
Iron	6010B		NS	NS										319										6160										
Manganese	6010B/6010D		NS	NS										NT										NT										
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																														
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS										< 10										4.13 J										
Ethane	8015	µg/l	NS	NS										< 10										< 10										
Ethylene	8015	µg/l	NS	NS										< 10										< 10										
Alkalinity	E310.1/2320B	µg/l*	NS	NS										83100										174000										
Chloride	E325.3/9251	µg/l	NS	NS										1870000										100000										
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS										NT										NT										
Iron, Ferrous	3500FE B	µg/l	NS	NS										NT										NT										
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS										12900										100										
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS										12800										< 110										
Nitrogen, Nitrite	E354.1	µg/l	NS	NS										83										< 10										
Sodium	6010C	µg/l	NS	NS										NT										NT										
Sulfate	E375.4/9038	µg/l	NS	NS										86800										33400										
Sulfide	E376.1	µg/l	NS	NS										< 2000										< 2000										
Surfactants	E425.1/5540C	µg/l	NS	NS										< 100										150										
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS										1300										12200										

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW108										MW109							MW110			MW111						MW111R			
Sample Location:					MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW109	MW109	MW109	MW109	MW109	MW109	MW109	MW110	MW110	MW110	MW111	MW111	MW111	MW111	MW111	MW111	MW111R	MW111R	MW111R	MW111R
Sample Name:					MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW109	MW109	MW109	MW109	MW109	MW109	MW109	MW110	MW110	MW110	MW111	MW111	MW111	MW111	MW111	MW111	MW111R	MW111R	MW111R	MW111R
Well Screen Interval (ft bgs):					2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 13	2 to 13	2 to 13	3 to 13	3 to 13	3 to 13	3 to 13	3 to 13	3 to 13	3 to 13	3 to 13	3 to 13	3 to 13	4 to 14	4 to 14	4 to 14	4 to 14	4 to 14	4 to 14	5 to 15	5 to 15	5 to 15	5 to 15
Sample Date:					1/18/07	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08	9/15/23	4/2/24	4/22/25	11/12/25	2/4/26	1/18/07	4/16/07	4/17/08	4/2/24	3/19/25	11/13/25	1/18/07	4/17/07	5/23/07	1/18/07	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08	3/7/25	4/24/25	11/12/25	2/4/26
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																														
Volatile Organic Compounds (VOCs)	8260	µg/l																																
Acetone			50000	50000	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10	8	6.9	6.9	<5.0
Benzene			1000	10000	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	<0.5	<0.50	<0.50	<0.50	< 0.50	< 0.50	< 0.50	<0.5	<0.50	<0.50	< 0.50	< 0.50	NT	< 5.0	< 13	NT	< 25	< 0.50	< 1.0	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10	<5.0	<5.0 K-	<5.0	<5.0
Carbon disulfide			NS	NS	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			2	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 10	< 25	< 1.0	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			200	1,000	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	0.28 J	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	NT	< 20	< 50	< 2.0	< 100	< 2.0	< 4.0	<2.0	<2.0	<2.0	<2.0
Chloroform			50	20,000	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	1.2	< 2.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			NS	NS	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	NT	< 20	< 50	NT	< 100	< 2.0	< 4.0	<2.0	<2.0 K-	<2.0	<2.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			2,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	1.2	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	30.9	15.7 J	16.8	19.1 J	5.6	4.3 C+	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			5	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 10	< 25	0.43 J	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			80	30,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	17.6	< 25	10.5	< 50	4.1	3.7 C+	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			20	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	22.6	17.2 J	56.3	63.9	10.6	4.4 C+	7.0	2.8	2.6	<1.0
trans-1,2-Dichloroethylene			90	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 10	< 25	1.5	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			3	50,000	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	NT	< 20	< 50	NT	< 100	< 1.0	< 4.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			5,000	50,000	< 25	< 25	NT	< 25	< 25	< 25	< 250	<250	<250	<50	<50	< 25	< 25	< 25	<250	<250	<250	< 25	< 25	NT	< 250	< 630	NT	< 1300	< 25	< 50	<250	<250	<250	<250
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10	<5.0	<5.0 K-	<5.0	<5.0
Isopropyl benzene			NS	NS	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10	<2.0	<2.0	<2.0	<2.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			50,000	50,000	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 2.0	<2.0	<2.0	<2.0	<2.0	3.5	< 1.0	< 1.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	0.45 J	< 2.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			2,000	50,000	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	NT	< 20	31.4 J	NT	< 100	< 2.0	< 4.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			700	20,000	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10	<2.0	<2.0	<2.0	<2.0
n-Propylbenzene			NS	NS	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10	<2.0	<2.0	<2.0	<2.0
Styrene			100	6,000	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10	<1.0	<1.0	<1.0	<1.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	NT	< 20	< 50	NT	< 100	< 2.0	< 4.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			20	30,000	< 1.0 F-	< 1.0	< 1.0	0.60 J	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	178 F-	28.5	17.4	12	4.8	17 K+	0.89 J F-	0.93 J	NT	13700 F-	7370	6340	8350	3100	1160 C+	74	39	45	4.5
Tetrahydrofuran			NS	NS	< 10	< 10	NT	< 10	< 10	< 10	< 2.0	<2.0	<2.0	<2.0	<2.0	< 10	< 10	< 10	<2.0	<2.0	<2.0	< 10	< 10	NT	< 100	< 250	NT	< 500	< 10	< 20	<2.0	4.9 K-	<2.0	<2.0
Toluene			50,000	40,000	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	0.77 J	0.97 J	0.31 J	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	142	56.5	89.1	84.1	41.3	17.6 C+	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 10	< 25	< 1.0	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			5	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	4.5	< 1.0	0.52 J	<1.0	<1.0	1.1	< 1.0	< 1.0	NT	150	84.4	120	125	42.1	19.9 C+	5.3	2.4	3.6	<1.0
1,2,4-Trimethylbenzene			NS	NS	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10	<2.0	<2.0	<2.0	<2.0
Vinyl chloride			2	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 10	< 25	< 1.0	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			3,000	5,000	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900	< 10																	2.9												
Iron	6010B		NS	NS	< 100																	84000												
Manganese	6010B/6010D		NS	NS	NT																	NT												
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																														
Others						NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT		NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS	0.18 J																	< 10		NT										
Ethane	8015	µg/l	NS	NS	< 10																	< 10		NT										
Ethylene	8015	µg/l	NS	NS	< 10																	< 10		NT										
Alkalinity	E310.1/2320B	µg/l*	NS	NS	71100																	122000		NT										
Chloride	E325.3/9251	µg/l	NS	NS	235000																	142000		1010000										
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS	NT																	NT		< 50										
Iron, Ferrous	3500FE B	µg/l	NS	NS	NT																	NT		NT										
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS	< 100																	2400		NT										
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS	< 110																	2300		NT										
Nitrogen, Nitrite	E354.1	µg/l	NS	NS	< 10																	54		NT										
Sodium	6010C	µg/l	NS	NS	NT																	NT		NT										
Sulfate	E375.4/9038	µg/l	NS	NS	28100																	47700		NT										
Sulfide	E376.1	µg/l	NS	NS	< 2000																	< 2000		NT										
Surfactants	E425.1/5540C	µg/l	NS	NS	< 100																	< 100		NT										
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS	1300																	5700		NT										

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW-2 Standard	Method 1 GW-3 Standard	Sample Location:	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A
					Sample Name:	MW112A 4 to 19 3/23/07 GEI	MW112A 4 to 19 4/16/07 GEI	MW112A 4 to 19 7/18/07 GEI	MW112A 4 to 19 10/10/07 GEI	MW112A 4 to 19 1/10/08 GEI	MW112A 4 to 19 4/17/08 GEI	MW112A 4 to 19 7/14/08 GEI	MW900 (FD) 4 to 19 7/14/08 GEI	MW112A 4 to 19 10/22/08 GEI	MW901 (FD) 4 to 19 10/22/08 GEI	MW112A 4 to 19 1/12/09 GEI	MW900 (FD) 4 to 19 1/12/09 GEI	MW112A 4 to 19 4/13/09 GEI	MW901 (FD) 4 to 19 4/13/09 GEI	MW112A 4 to 19 7/14/09 GEI	MW901 (FD) 4 to 19 7/14/09 GEI	MW112A 4 to 19 10/14/09 GEI	MW900 (FD) 4 to 19 10/14/09 GEI	MW112A 4 to 19 4/12/10 GEI	MW900 (FD) 4 to 19 4/12/10 GEI	MW112A 4 to 19 10/27/10 GEI	MW112A 4 to 19 4/20/11 GEI	MW900 (FD) 4 to 19 4/20/11 GEI	MW112A 4 to 19 11/16/11 GEI	MW112A 4 to 19 4/16/12 GEI	MW900 (FD) 4 to 19 4/16/12 GEI	MW112A 4 to 19 11/12/12 GEI	MW112A 4 to 19 4/24/13 GEI	MW900 (FD) 4 to 19 4/24/13 GEI	MW112A 4 to 19 11/18/13 GEI
					Well Screen Interval (ft bgs):																												
					Sample Date:																												
					Collected By:																												
Volatile Organic Compounds (VOCs)	8260	µg/l																														
Acetone			50000	50000		< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0 F+	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 10	< 10	< 5.0	< 5.0 K-	< 5.0 K-	< 10 K-	< 20	< 20	< 10 K-
Benzene			1000	10000		< 0.50	< 0.50	NT	< 0.50	0.34 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.26 J	0.27 J	0.36 J	0.28 J	< 0.50 F-	< 0.50 F-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	< 1.0	< 0.50
Bromodichloromethane			6	50000		< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0
2-Butanone (MEK)			50000	50000		< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10 K-	< 10	< 10	< 5.0
Carbon disulfide			NS	NS		< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0
Carbon tetrachloride			2	5,000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0
Chlorobenzene			200	1,000		< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0
Chloroethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0
Chloroform			50	20,000		0.35 J	< 1.0	NT	< 1.0	0.32 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.23 J	0.24 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0
Chloromethane			NS	NS		< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0
1,4-Dichlorobenzene			60	8,000		< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0
1,1-Dichloroethane			2,000	20,000		27.6	24.0	6.4	35.6	114	40.9 C+	31.5	31.2	43.7	44.6	70.9	70.7	109	89.6	99.3	107	137	142	83.8	88.3	85.5	38.1	38.8	39.5	71.5	69.0	48.1	24.2	37.0	73.5
1,2-Dichloroethane			5	20,000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0
1,1-Dichloroethylene			80	30,000		19.7	10.8	6.7	19.7	82.4	36.6 C+	24.5	24.5	39.1	39.3	61.7	61.7	89.2	73.0	91.4	97.7	123	130	74.9	78.6	89.1	57.9	53.0	47.6	86.4	76.2	57.3	30.2	30.0	86.5
cis-1,2-Dichloroethylene			20	50,000		< 1.0	0.54 J	0.98 J	4.2	18.7	55.3 C+	81.5	80.9	214	212	225	224	296	247	311	380	390	373	165	196	214	143	140	169	178	185	150	145	112	209
trans-1,2-Dichloroethylene			90	50,000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.9 G	2.5 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.9	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	2.9	< 1.0	< 1.0
1,2-Dichloropropane			3	50,000		< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0
1,4-Dioxane			5,000	50,000		< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25	< 25	< 25	< 50	< 50	< 50	< 25
Ethylbenzene			20,000	5,000		< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0
2-Hexanone			NS	NS		< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0 K-
Isopropyl benzene			NS	NS		< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0
4-Isopropyltoluene			NS	NS		< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0
Methyl tert-butyl ether			50,000	50,000		10.8	13.8	NT	20.3	87.0	20.5 C+	14.9	13.5	32.4	32.2	33.3	32.9	29.9	23.3	41.4	46.0	77.5	81.4	15.9	20.3	50.3	9.2	9.1	22.3	27.1	26.2	28.8	19.0	14.1	64.6
Methylene chloride			2,000	50,000		< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0
Naphthalene			700	20,000		< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0
n-Propylbenzene			NS	NS		< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0
Styrene			100	6,000		< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0
Tert-amyl methyl ether			NS	NS		< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50,000		< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0
Tetrachloroethylene (PCE)			20	30,000		261	198	144	159	359	202 C+	165	164	226	228	287	290	290 G	384	359	360	393	405	481	477	561	415	409	363	569 R	604	546	339	581	371
Tetrahydrofuran			NS	NS		< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10 F+	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 10	< 10	< 10	< 20 F- K-	< 20	< 20	< 10
Toluene			50,000	40,000		0.54 J	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000		1.3	0.96 J	0.68 J	1.4	5.8	1.9 C+	1.3	1.2	5.6	5.7	3.3	3.2	3.9	3.1	3.8	4.0	4.2 J+	4.4 J+	3.4	3.4	4.3	7.5	< 2.0	3.3	5.3	4.8	4.1	4.3	6.5	8.0
1,1,2-Trichloroethane			900	50,000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0
Trichloroethylene (TCE)			5	5,000		34.0	36.1	26.7	61.3	142	72.8 C+	46.1	44.3	54.9	55.9	88.2	87.9	140	114	137	139	194	198.0	173	179	181	110	108	95.0	171	157	138	87.0	140	146
1,2,4-Trimethylbenzene			NS	NS		< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0
Vinyl chloride			2	50,000		0.84 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.42 J	0.43 J	< 1.0	< 1.0	1.2	1.3	1.0	1.5	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	4.4	0.90 J
m,p-Xylene			3,000	5,000		< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0
o-Xylene			3,000	5,000		< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0
Total Xylene			3,000	5,000		< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0
Total Petroleum Hydrocarbons (TPH)		mg/L				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT		NT	NT		NT	NT		NT	NT
Arsenic	6010B		NS	900																				NT			NT			NT			NT		
Iron	6010B		NS	NS																				< 0.10 J+			NT			< 100			14200		
Manganese	6010B/6010D		NS	NS																				875			1570			954			1610		
Metals (Dissolved)	6010C	µg/l				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																															
Others						NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT		NT	NT		NT	NT		NT	NT
Methane	8015	µg/l	NS	NS																				0.18 J B			< 0.30			0.66			0.10 J		
Ethane	8015	µg/l	NS	NS																				< 0.10			< 0.10			< 0.10			< 0.10		
Ethylene	8015	µg/l	NS	NS																				< 0.10			< 0.10			< 0.10			< 0.10		
Alkalinity	E310.1/2320B	µg/l*	NS	NS																				233000			252000			245000			278000		
Chloride	E325.3/9251	µg/l	NS	NS																				810000			915000			655000			857000		
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																				< 50 A			< 50			< 50 A			< 50 A F- J		
Iron, Ferrous	3500FE B	µg/l	NS	NS																				NT			NT			NT			NT		
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																				4700			3500			2600			1300		
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																				4700			3500			2600			1300		
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																				11			< 10			< 10			< 10		
Sodium	6010C	µg/l	NS	NS																				NT			NT			NT			NT		
Sulfate	E375.4/9038	µg/l	NS	NS																				57100			52200			66100			68000		
Sulfide	E376.1	µg/l	NS	NS																				< 2000			< 2000			< 2000			< 2000		
Surfactants	E425.1/5540C	µg/l	NS	NS																				< 100			< 100			< 100			< 100		
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																				1200			1100			< 1000			1500		

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW112A (cont.)																										
Sample Location:					MW112A	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW112A	MW901 (FD)	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A
Sample Name:					MW112A	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW112A	MW901 (FD)	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A
Well Screen Interval (ft bgs):					4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19
Sample Date:					6/11/14	11/18/14	4/17/15	4/17/15	4/28/16	11/21/16	4/18/17	4/18/2017	11/10/2017	4/4/2018	11/15/2018	4/15/2019	11/22/2019	4/16/2020	11/18/2020	4/13/2021	11/30/2021	4/14/2022	11/29/2022	5/11/2023	11/7/2023	4/2/2024	11/14/2024	4/25/2025	11/13/2025	2/3/2026
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																											
Volatile Organic Compounds (VOCs)	8260	µg/l																													
Acetone			50000	50000	< 10 K-	< 10	< 10	< 10	< 10	< 10	<10	<10	< 20	<25	<25	<25	<10	<25	<25	<25	<25	<25	<25	<10	< 25	<12	< 20	<10	<10	<20
Benzene			1000	10000	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.43 J	0.23 J	0.23 J	< 1.0	<1.3	<1.3	<1.3	<0.50	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<1	< 2.5	<1.2	< 2.0	<1.0	<1.0	<2.0
Bromodichloromethane			6	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0	<2.0	<2.0	<4.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	<10	<10	< 20	<25	<25	<25	<10	<25	<25	<25	<25	<25	<25	<5	< 25	<12	< 20	<10	<10	<20
Carbon disulfide			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	<2	< 10	<5.0	< 8.0	<4.0	<4.0	<8.0
Carbon tetrachloride			2	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<1	< 5.0	<2.5	< 4.0	<2.0	<2.0	<4.0
Chlorobenzene			200	1,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0	<2.0	<2.0	<4.0
Chloroethane			NS	NS	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<10	<10	<10	<10	<10	<10	<4	< 10	<5.0	< 8.0	<4.0	<4.0	<8.0
Chloroform			50	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0	<2.0	<2.0	<4.0
Chloromethane			NS	NS	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<10	<10	<10	<10	<10	<10	<4	< 10	<5.0	< 8.0	<4.0	<4.0	<8.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0	<2.0	<2.0	<4.0
1,1-Dichloroethane			2,000	20,000	18.3	64.1 G K-	23.2	25.2	14.1	77	34.1	30.1	88.1	25.3	25.3	38.5	36.9	51	48	40	35	24	35	50	39	28	30	19	27	25
1,2-Dichloroethane			5	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0	<2.0	<2.0	<4.0
1,1-Dichloroethylene			80	30,000	38.5	109 K+	39	42.9	21.5	132	47.7	43.0	92.5	33.0	33.0	57.3	63.1	79	98	58	63	45	67	27	53	46	52	33	47	56
cis-1,2-Dichloroethylene			20	50,000	150	321	71.1	84.1	108	230	78.2	71.8	155	98.5	98.5	60.6	131.0	72	130	62	120	85	68	100	64	100	93	99	130	150
trans-1,2-Dichloroethylene			90	50,000	< 1.0	< 1.0 K+	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0	<2.0	<2.0	<4.0
1,2-Dichloropropane			3	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0	<2.0	<2.0	<4.0
1,4-Dioxane			5,000	50,000	< 25	< 25	< 25	< 25	< 25	< 50	<130	<130	< 250	<310	<310	<310	<130	<1200	<1200	<1200	<1200	<1200	<1200	<500	< 1200	<620	< 1000	<500 K-	<50	<1000
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0	<2.0	<2.0	<4.0
2-Hexanone			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	<5.0	<5.0	< 10	<13	<13	<13	<5.0	<25	<25	<25	<25	<25	<25	<10	< 25	<12	< 20	<10	<10	<20
Isopropyl benzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 2.0	< 2.5	< 2.5	< 2.5	< 1.0	<10	<10	<10	<10	<10	<10	<10	< 10	<5.0	< 8.0	<4.0	<4.0	<8.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	<4	< 10	<5.0	< 8.0	<4.0	<4.0	<8.0
Methyl tert-butyl ether			50,000	50,000	4.6	47.3 K+	11.9	13.9	3.9	53.9	11.6	11.4	56	19.1	19.1	25.9	21.7	27	30	19	12	5	13	10	15	6	10	<4.0	8.2	<8.0
Methylene chloride			2,000	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	<4	< 10	<5.0	< 8.0	<4.0	<4.0	<8.0
Naphthalene			700	20,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	< 10	<13	<13	<13	<5.0	<10	<10	<10	<10	<10	<10	<4	< 10	<5.0	< 8.0	<4.0	<4.0	<8.0
n-Propylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 4.0	< 5.0	< 5.0	< 5.0	< 2.0	<10	<10	<10	<10	<10	<10	<10	< 10	<5.0	< 8.0	<4.0	<4.0	<8.0
Styrene			100	6,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 2.0	< 2.5	< 2.5	< 2.5	< 1.0	<5	<5	<5	<5	<5	<5	<5	< 5.0	<2.5	< 4.0	<2.0	<2.0	<4.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	<4	< 10	<5.0	< 8.0	<4.0	<4.0	<8.0
1,1,1,2-Tetrachloroethane			10	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0	<2.0	<2.0	<4.0
Tetrachloroethylene (PCE)			20	30,000	266	398	303	303	300	258	508	435	404	908	317	317	555	463	750	760	630	460	370	560	300	460	370	420	220	400	420
Tetrahydrofuran			NS	NS	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	< 20	<25	<25	<25	<10	<10	<10	<10	<10	<10	<10	<4	< 10	<5.0	< 8.0	<4.0	<4.0	<8.0
Toluene			50,000	40,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0	<2.0	<2.0	<4.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	1.5	3.6	1.3	1.4	1.7	6.5	4.1	3.6	11.4	3.6	3.6	5.4	5.0	7.5	7.8	7.0	5.1	3.0	<5	4.1	5.4	3.5	< 4.0	2.3	4.2	<4.0
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0	<2.0	<2.0	<4.0
Trichloroethylene (TCE)			5	5,000	82.0	117	71	73	61.3	220.0	118.0	107	247	92.3	92.3	136	136	180	190	140	130	95	140	170	110	84	84	56	98	86
1,2,4-Trimethylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 2.0	< 2.0	< 4.0	< 5.0	< 5.0	< 5.0	< 2.0	<10	<10	<10	<10	<10	<10	<10	< 10	<5.0	< 8.0	<4.0	<4.0	<8.0
Vinyl chloride			2	50,000	< 1.0	0.77 J G K-	< 1.0	< 1.0	< 1.0	1.3	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	1.4	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	11	12	28	10	19	5
m,p-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<10	<10	<10	<10	<10	<10	<4	< 10	<5.0	< 8.0	<4.0	<4.0	<8.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0	<2.0	<2.0	<4.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0	<2.0	<2.0	<4.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l				NT		NT		NT		NT	NT		NT		NT		NT		NT		NT	NT	NT						NT
Arsenic	6010B		NS	900	NT		NT		NT		NT			NT		NT		NT		NT		NT				NT	NT	NT	NT	
Iron	6010B		NS	NS	NT		NT		NT		NT			NT		NT		NT		NT		NT				NT	NT	NT	NT	
Manganese	6010B/6010D		NS	NS	1470		909		1530		627			2620		3360		2600		2550		635				2020	2020	1480	2260	
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT		NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS												NT		NT													
Others						NT		NT		NT		NT	NT		NT		NT		NT		NT	NT		NT		NT				NT
Methane	8015	µg/l	NS	NS	< 10		< 10		< 10		<10			320		6.7		17.6		5.88		2.11		3.94		4.64		5.31	13	
Ethane	8015	µg/l	NS	NS	< 10		< 10		< 10		<10			12.2		<0.23		<0.500		<0.500		<0.500		<0.500		<3.0		<3.0	<5.2	
Ethylene	8015	µg/l	NS	NS	< 10		< 10		< 10		<10			<0.31		<0.31		<0.500		<0.500		<0.500		<0.500		3.91		<3.0	<6.5	
Alkalinity	E310.1/2320B	µg/l*	NS	NS	285000		266000		332000		339000			247000		259000		248000		234000		265000		249000		245000		246000	235000	
Chloride	E325.3/9251	µg/l	NS	NS	815000		700000		700000		439000			170000		517000		440000		540000		410000		560000		640000		490000	440000	
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS	< 50 A		< 50		200		< 50			280		<100		<20		<20		<20		<20		<20		60	<20	
Iron, Ferrous	3500FE B	µg/l	NS	NS	< 100		< 100		< 100		<100			<200		<200		<500		<500		<500		<500		<500		<500	<500	
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS	650		1200		490		620			<100		490		330		240		<380		<100		210		360	300	
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS	650		1200		490		620			<110		480		334		217		<371		<100		207		307	296	
Nitrogen, Nitrite	E354.1	µg/l	NS	NS	< 10		< 10		< 10		<10			<10		<10		NT		NT		NT		NT		NT		NT	NT	
Sodium	6010C	µg/l	NS	NS	NT		NT		NT		NT			NT		NT		NT		NT		NT		NT		NT		NT	NT	
Sulfate	E375.4/9038	µg/l	NS	NS	90900		63100		117000		71000			59200		551000		50000		50000		60000		44000		78000		71000	62000	
Sulfide	E376.1	µg/l	NS	NS	< 2000									<2000		<2000		<100		<100		<100		<50		<50		<2000	<2000	
Surfactants	E425.1/5540C	µg/l	NS	NS	< 100		< 100		< 100		<100			<100		<100		<50		<50		<50		70		<50		<50	<50	
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS	< 1000		< 5000		< 1000		<1000			1700		<1000		750		700		750		2600		<500		<500	<500	

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW113										MW114						MW115									
Sample Location:					MW113	MW113	MW113	MW900 (FD)	MW113	MW900 (FD)	MW113	MW900 (FD)	MW113	MW900 (FD)	MW114	MW114	MW114	MW114	MW114	MW114	MW115	MW115	MW115 R	MW115	MW115	MW115 R	MW-115/115R	MW-115/115R	MW-115/115R
Sample Name:					MW113	MW113	MW113	MW900 (FD)	MW113	MW900 (FD)	MW113	MW900 (FD)	MW113	MW900 (FD)	MW114	MW114	MW114	MW114	MW114	MW114	MW115	MW115	MW115 R	MW115	MW115	MW115 R	MW-115/115R	MW-115/115R	MW-115/115R
Well Screen Interval (ft bgs):					10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	7 to 17	7 to 17	7 to 17	7 to 17	7 to 17	7 to 17	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25
Sample Date:					2/20/07	4/12/07	7/18/07	7/18/07	10/10/07	10/10/07	1/11/08	1/11/08	4/15/08	4/15/08	2/20/07	4/13/07	7/18/07	10/10/07	1/11/08	4/17/08	3/23/07	4/13/07	7/18/07	10/10/07	1/9/08	4/17/08	1/20/25	4/22/25	11/13/25
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																									
Volatile Organic Compounds (VOCs)	8260	µg/l																											
Acetone			50000	50000	< 5.0	3.8 J	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	2.1 J	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0
Benzene			1000	10000	< 0.50	< 0.50	NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0
Carbon disulfide			NS	NS	< 5.0	0.66 J	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
Carbon tetrachloride			2	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			200	1,000	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Chloroethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0
Chloroform			50	20,000	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Chloromethane			NS	NS	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			2,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			5	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			80	30,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.43 J	0.33 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			20	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			90	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			3	50,000	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0
1,4-Dioxane			5,000	50,000	< 25	< 25	NT	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	NT	< 25	< 25	< 25	< 25 J+	< 25	NT	< 25	< 25	< 25	<250	<250	<250 K-
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0
Isopropyl benzene			NS	NS	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			50,000	50,000	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0
Methylene chloride			2,000	50,000	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0
Naphthalene			700	20,000	< 5.0	1.2 J	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
n-Propylbenzene			NS	NS	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
Styrene			100	6,000	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			20	30,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.84 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			NS	NS	< 10	< 10	NT	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	<2.0	<2.0	<2.0
Toluene			50,000	40,000	0.44 J	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.34 J	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			5	5,000	< 1.0	0.82 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene			NS	NS	< 5.0	0.45 J	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
Vinyl chloride			2	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			3,000	5,000	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																									
Iron	6010B		NS	NS																									
Manganese	6010B/6010D		NS	NS																									
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																									
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																									
Ethane	8015	µg/l	NS	NS																									
Ethylene	8015	µg/l	NS	NS																									
Alkalinity	E310.1/2320B	µg/l*	NS	NS																									
Chloride	E325.3/9251	µg/l	NS	NS																									
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																									
Iron, Ferrous	3500FE B	µg/l	NS	NS																									
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																									
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																									
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																									
Sodium	6010C	µg/l	NS	NS																									
Sulfate	E375.4/9038	µg/l	NS	NS																									
Sulfide	E376.1	µg/l	NS	NS																									
Surfactants	E425.1/5540C	µg/l	NS	NS																									
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																									

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

					MW116																											
Sample Location:					MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116
Sample Location:					MW116	MW116	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)
Sample Name:					MW116	MW116	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)
Well Screen Interval (ft bgs):					5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15
Sample Date:					3/23/07	4/16/07	7/18/07	7/18/07	10/12/07	10/12/07	1/11/08	1/11/08	4/15/08	4/15/08	7/16/08	10/21/08	1/14/09	4/15/09	7/14/09	10/14/09	4/13/10	4/13/10	4/21/11	4/21/11	4/17/12	4/17/12	4/24/13	4/24/13	5/1/14	5/1/14	4/2/15	4/2/15	4/29/16	4/29/16
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																												
Volatile Organic Compounds (VOCs)	8260	µg/l																														
Acetone			50000	50000	< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10 F+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 20	< 10	< 20	< 20	< 20	< 20	< 10
Benzene			1000	10000	0.24 J	< 0.50	NT	NT	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 1.0	< 0.50	< 1.0	< 1.0	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	NT	NT	1.1 J	0.99 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 5.0
Carbon disulfide			NS	NS	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	2.9 J	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 5.0
Carbon tetrachloride			2	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0
Chlorobenzene			200	1,000	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0
Chloroethane			NS	NS	< 2.0	< 2.0	2.4	2.3	2.4 J	2.4 J	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0
Chloroform			50	20,000	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0
Chloromethane			NS	NS	< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	1.6	1.0	0.82 J	0.77 J	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0
1,1-Dichloroethane			2,000	20,000	135	4.4	97.3	96.9	80.1	79.3	18.9	15.6	66.8	64.5	114	109	72.5	101	69.7	92.2	63.9	68.9	27.8	23.4	52.8	51.8	31.5	25.8	38.5	41.9	52.0	49.9	38.3	45.0
1,2-Dichloroethane			5	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	0.23 J	0.20 J	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0
1,1-Dichloroethylene			80	30,000	107	2.7	33.8	34.0	24.8	22.4	14.7	11.8	46.3	45.7	78.4	79.8	56.5	70.6	35.2	68.8	49.1	51.9	22.4	14.1	43.3	42.3	26.7	39.4	46.1	50.3	52.4	50.8	27.7	36.4
cis-1,2-Dichloroethylene			20	50,000	103	21.7	415	431	346	341	49.5	42.9	105	102	286	319	146	84.1	92.7	133	80.7	92.1	84.6	68.3	115	112	94.8	144	107	116	114	111	50.6	59
trans-1,2-Dichloroethylene			90	50,000	1.8	< 1.0	4.3	4.4	2.5	2.4	0.88 J	1.3	< 1.0	< 1.0	< 2.0	1.3	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	1.6	1.6	1.8	< 1.0	< 1.0	< 2.0	1.1	< 2.0	< 2.0	1.1 J	< 2.0	< 2.0	< 1.0
1,2-Dichloropropane			3	50,000	< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0
1,4-Dioxane			5,000	50,000	< 25	< 25	NT	NT	< 50	< 50	< 25	< 25	< 25	< 25	< 50	< 25	< 50	< 25	< 50 F-	< 50	< 130	< 25	< 25	< 25	< 25 K-	< 25 K-	< 100	< 50	< 50	< 50	< 50	< 50	< 50
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 5.0
Isopropyl benzene			NS	NS	< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 5.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 5.0
Methyl tert-butyl ether			50,000	50,000	12.3	0.40 J	NT	NT	12.5	12.7	2.1 J+	1.3 J+	7.1	6.9	18.2	18.0	9.0	11.7	7.2	8.4	5.4	5.9	4.4	4.4	3.4	3.3	14.1	10.6 K-	4.4	4.8	5.0	4.9	< 2.0	0.79 J
Methylene chloride			2,000	50,000	< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0
Naphthalene			700	20,000	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	0.68 J	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 5.0
n-Propylbenzene			NS	NS	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 5.0
Styrene			100	6,000	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 5.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0 K-	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0
Tetrachloroethylene (PCE)			20	30,000	1180	32.2	167	168	116	110	267	257 J+	603	607	864	839	795	796 G	1020	1010	860	933	323	166	774	778	527	396	618	670	726	695	450	436
Tetrahydrofuran			NS	NS	30.6	13.8	NT	NT	< 20	< 20	< 10	< 10	< 10	< 10	< 20	< 10	< 20	< 10	< 20 F+	< 20	< 50	< 10	< 10	< 10	< 10	< 10	< 20	< 10	13.3 J	15.7 J	<20	<20	<20	< 10
Toluene			50,000	40,000	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	21.6	0.67 J	10.6	10.7	9.4	9.2	3.3	2.5	10.7	10.7	16.0	15.6	12.8	16.6	8.5	14.3 J+	8.2	10.2	4.2	3.8	8.0	8.3	6.0	3.0	6.7	7.3	8.0	7.6	3.8	4.4
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0
Trichloroethylene (TCE)			5	5,000	358	19.4	72.7	73.2	136	129	66.3	53.6	175	174	257	269	229	341	196	267	195	212	88.7	57.7	181	182	126	95.4	164	182	188	183	113	139
1,2,4-Trimethylbenzene			NS	NS	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	0.69 J	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.0 J	< 5.0	< 10	< 10	< 10	< 10	< 5.0
Vinyl chloride			2	50,000	14.1	3.2	185	182	84.9	76.4	3.1	2.3	2.6	2.7	7.2	21.3	13.9	6.3	6.1	6.9	5.7	6.1	13.5	9.0	8.8 K+	8.8 K+	3.8	< 1.0	1.8 J	2.2	3.8	3.8	< 2.0	< 1.0
m,p-Xylene			3,000	5,000	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	1.2	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	1.2	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																												
Iron	6010B		NS	NS																												
Manganese	6010B/6010D		NS	NS																												
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																												
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																												
Ethane	8015	µg/l	NS	NS																												
Ethylene	8015	µg/l	NS	NS																												
Alkalinity	E310.1/2320B	µg/l*	NS	NS																												
Chloride	E325.3/9251	µg/l	NS	NS																												
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																												
Iron, Ferrous	3500FE B	µg/l	NS	NS																												
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																												
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																												
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																												
Sodium	6010C	µg/l	NS	NS																												
Sulfate	E375.4/9038	µg/l	NS	NS																												
Sulfide	E376.1	µg/l	NS	NS																												
Surfactants	E425.1/5540C	µg/l	NS	NS																												
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																												

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g.,, S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

					MW116 (cont.)																					MW117D							
Sample Location:					MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D
Sample Name:					MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900	MW116	MW900	MW116	MW900	MW116	MW900	MW116	MW900	MW116	MW900	MW116	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D
Well Screen Interval (ft bgs):					5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70
Sample Date:					4/17/17	4/17/17	4/4/18	4/4/18	4/16/19	4/16/19	4/17/20	4/17/20	4/14/21	4/14/21	4/14/22	4/14/22	4/18/23	4/18/23	4/3/24	4/3/24	4/24/25	4/24/25	11/11/25	11/11/25	2/4/26	2/4/26	7/19/07	10/11/07	1/15/08	4/16/08	7/16/08	10/21/08	1/13/09	4/14/09
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																													
Volatile Organic Compounds (VOCs)	8260	µg/l																															
Acetone			50000	50000	<10	<10	<10	<10	<10	<10	<25	<25	<12	<12	<5.0	<5.0	<5.0	<5.0	<12	<10	<5.0	<5.0	<10	<10	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Benzene			1000	10000	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.5	<2.5	<1.2	<1.2	<0.50	<0.50	<0.50	<0.50	<1.2	<1.0	<0.50	<0.5	<0.50	<0.5	<0.5	<0.5	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000	<10	<10	<10	<10	<10	<10	<25	<25	<12	<12	<5.0	<5.0	<5.0	<5.0	<12	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	6.5	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2,000	20,000	49.4	49.8	44.1	46.2	22.7	53.9	70	75	39	40	30	29	28	27	21	22	26	25	18	22	26	24	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			5	20,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30,000	35.1	34.4	19.7	20.9	9.4	31.3	30	39	27	27	20	20	23	23	25	26	22	22	13	12	18	19	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			20	50,000	67.5	67.2	42.6	44.2	27.3	112.0	120	130	110	110	140	130	150	150	56	57	110	110	57	60	51	57	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			90	50,000	0.42 J	0.45 J	1.1	1.2	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5,000	50,000	<130	<130	<130	<130	<130	<130	<1200	<1200	<620	<620	<250	<250	<250	<250	<620	<500	<250	<250	<250	<50	<250	<50	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+
Ethylbenzene			20,000	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25	<12	<12	<5.0	<5.0	<5.0	<5.0	<12	<10	<5.0	<5	<5.0	<5	<5.0	<5	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropyl benzene			NS	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50,000	50,000	1.6	1.6	1.1	1.2	<1.0	3.5	<10	<10	<5.0	<5.0	2.3	2.2	2.3	2.2	<5.0	<4.0	<2.0	<2.0	1.6	1.8	<2.0	<2.0	NT	1.6	2.3	1.5	< 1.0	1.5	0.96 J	0.86 J
Methylene chloride			2,000	50,000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	4.9 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene			100	6,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30,000	482	456	233	253	129	404	520	550	340	340	120	120	130	130	310	340	160	150	130	140	180	190	0.54 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			NS	NS	<10	<10	<10	<10	<10	<10	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+
Toluene			50,000	40,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	0.98 J	< 1.0	0.34 J	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	3.8	3.7	1.8	2.0	1.0	2.6	<5.0	<5.0	2.6	2.6	3.2	3.2	2.8	2.8	2.6	2.7	2.6	2.6	1.7	1.8	2.0	1.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			900	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5,000	131	129	83.3	86.3	37	157	200	220	120	120	35	34	53	54	86	90	68	66	40	39	48	46	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl chloride			2	50,000	1.6	1.4	<1.0	<1.0	<1.0	20.2	22	29	50	49	130	120	87	86	5	5	61	61	16	20	28	19	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			3,000	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3,000	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3,000	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<2.0	<2.0	<2.0	<2.0	<2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																													
Iron	6010B		NS	NS																													
Manganese	6010B/6010D		NS	NS																													
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																													
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																													
Ethane	8015	µg/l	NS	NS																													
Ethylene	8015	µg/l	NS	NS																													
Alkalinity	E310.1/2320B	µg/l*	NS	NS																													
Chloride	E325.3/9251	µg/l	NS	NS																													
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																													
Iron, Ferrous	3500FE B	µg/l	NS	NS																													
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																													
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																													
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																													
Sodium	6010C	µg/l	NS	NS																													
Sulfate	E375.4/9038	µg/l	NS	NS																													
Sulfide	E376.1	µg/l	NS	NS																													
Surfactants	E425.1/5540C	µg/l	NS	NS																													
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																													

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

					MW117D (cont.)																			MW117S												
Sample Location:					MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S
Sample Name:					MW117D 60 to 70 7/15/09	MW117D 60 to 70 10/14/09	MW117D 60 to 70 4/13/10	MW117D 60 to 70 4/20/11	MW117D 60 to 70 4/16/12	MW117D 60 to 70 4/24/13	MW117D 60 to 70 5/1/14	MW117D 60 to 70 4/2/15	MW117D 60 to 70 4/28/16	MW117D 60 to 70 4/17/17	MW117D 60 to 70 4/3/18	MW117D 60 to 70 4/15/19	MW117D 60 to 70 4/16/20	MW117D 60 to 70 4/13/21	MW117D 60 to 70 4/12/22	MW117D 60 to 70 4/17/23	MW117D 60 to 70 4/2/24	MW117D 60 to 70 4/22/25	MW117D 60 to 70 11/10/25	MW117D 60 to 70 2/2/26	MW117S 5 to 20 7/18/07	MW117S 5 to 20 10/15/07	MW117S 5 to 20 1/11/08	MW117S 5 to 20 4/16/08	MW117S 5 to 20 7/16/08	MW117S 5 to 20 10/21/08	MW117S 5 to 20 1/13/09	MW117S 5 to 20 4/14/09	MW117S 5 to 20 7/15/09	MW117S 5 to 20 10/14/09	MW117S 5 to 20 4/13/10	MW117S 5 to 20 4/21/11	MW117S 5 to 20 4/16/12
Well Screen Interval (ft bgs):					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Sample Date:																																			
Collected By:																																			
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																															
Volatile Organic Compounds (VOCs)	8260	µg/l																																	
Acetone			50000	50000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	5.8	<5.0	<5.0	<5.0	<10.0	<10.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene			1000	10000	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.0	0.43 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.3
Chloromethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			5	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			20	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			90	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5,000	50,000	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	<250	<250	<250	<50	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropyl benzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50,000	50,000	1.3	1.5	1.2	< 1.0	< 1.0	6.8	< 1.0	< 1.0	0.66 J	1.3	<1.0	1.4	2	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			2,000	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20,000	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene			100	6,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			NS	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10
Toluene			50,000	40,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl chloride			2	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																															
Iron	6010B		NS	NS																															
Manganese	6010B/6010D		NS	NS																															
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																															
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																															
Ethane	8015	µg/l	NS	NS																															
Ethylene	8015	µg/l	NS	NS																															
Alkalinity	E310.1/2320B	µg/l*	NS	NS																															
Chloride	E325.3/9251	µg/l	NS	NS																															
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																															
Iron, Ferrous	3500FE B	µg/l	NS	NS																															
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																															
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																															
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																															
Sodium	6010C	µg/l	NS	NS																															
Sulfate	E375.4/9038	µg/l	NS	NS																															
Sulfide	E376.1	µg/l	NS	NS																															
Surfactants	E425.1/5540C	µg/l	NS	NS																															
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																															

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW117S (cont.)														MW117T																	
Sample Location:					MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T
Sample Name:					MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T
Well Screen Interval (ft bgs):					5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45
Sample Date:					4/24/13	5/1/14	4/2/15	4/27/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/12/22	4/17/23	4/2/24	4/22/25	11/10/25	7/19/07	10/11/07	1/15/08	4/16/08	7/16/08	10/21/08	1/13/09	4/14/09	7/15/09	10/16/09	4/13/10	4/21/11	4/16/12	4/23/13	5/1/14	4/2/15	4/27/16	4/17/17
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																																
Volatile Organic Compounds (VOCs)	8260	µg/l																																		
Acetone			50000	50000	< 10	< 10	< 10	< 10	<10	<10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10
Benzene			1000	10000	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10
Carbon disulfide			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0
Carbon tetrachloride			2	5,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Chlorobenzene			200	1,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Chloroethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0
Chloroform			50	20,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Chloromethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,1-Dichloroethane			2,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,2-Dichloroethane			5	20,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,1-Dichloroethylene			80	30,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
cis-1,2-Dichloroethylene			20	50,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
trans-1,2-Dichloroethylene			90	50,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,2-Dichloropropane			3	50,000	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0
1,4-Dioxane			5,000	50,000	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	<250	<250	<250	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	< 25	<130
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
Isopropyl benzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0
Methyl tert-butyl ether			50,000	50,000	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	3.4	9.8	4.8	1.7	2.8	1.9	4.1	1.5	7.0	1.6	1.4	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0
Methylene chloride			2,000	50,000	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0
Naphthalene			700	20,000	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
n-Propylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0
Styrene			100	6,000	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0
Tetrachloroethylene (PCE)			20	30,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Tetrahydrofuran			NS	NS	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10
Toluene			50,000	40,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Trichloroethylene (TCE)			5	5,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,2,4-Trimethylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0
Vinyl chloride			2	50,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
m,p-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																																
Iron	6010B		NS	NS																																
Manganese	6010B/6010D		NS	NS																																
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																																
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																																
Ethane	8015	µg/l	NS	NS																																
Ethylene	8015	µg/l	NS	NS																																
Alkalinity	E310.1/2320B	µg/l*	NS	NS																																
Chloride	E325.3/9251	µg/l	NS	NS																																
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																																
Iron, Ferrous	3500FE B	µg/l	NS	NS																																
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																																
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																																
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																																
Sodium	6010C	µg/l	NS	NS																																
Sulfate	E375.4/9038	µg/l	NS	NS																																
Sulfide	E376.1	µg/l	NS	NS																																
Surfactants	E425.1/5540C	µg/l	NS	NS																																
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																																

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

					MW117T (cont.)										MW118D																					
Sample Location:					MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D
Sample Name:					MW117T 35 to 45 4/3/18 GEI	MW117T 35 to 45 4/15/19 GEI	MW117T 35 to 45 4/16/20 GEI	MW117T 35 to 45 4/13/21 GEI	MW117T 35 to 45 4/12/22 GEI	MW117T 35 to 45 4/17/23 GEI	MW117T 35 to 45 4/2/24 GEI	MW117T 35 to 45 4/22/25 GEI	MW117T 35 to 45 11/10/25 GEI	MW117T 35 to 45 2/2/26 GEI	MW118D 70 to 80 7/20/07 GEI	MW118D 70 to 80 8/30/07 GEI	MW118D 70 to 80 10/11/07 GEI	MW118D 70 to 80 1/16/08 GEI	MW118D 70 to 80 4/16/08 GEI	MW118D 70 to 80 7/16/08 GEI	MW118D 70 to 80 10/21/08 GEI	MW118D 70 to 80 1/14/09 GEI	MW118D 70 to 80 4/14/09 GEI	MW118D 70 to 80 7/15/09 GEI	MW118D 70 to 80 10/14/09 GEI	MW118D MW901 (FD 70 to 80 10/14/09 GEI	MW118D 70 to 80 4/12/10 GEI	MW118D 70 to 80 4/20/11 GEI	MW118D 70 to 80 4/16/12 GEI	MW118D 70 to 80 11/12/12 GEI	MW118D 70 to 80 4/24/13 GEI	MW118D 70 to 80 11/18/13 GEI	MW118D 70 to 80 5/1/14 GEI	MW118D 70 to 80 11/18/14 GEI	MW118D 70 to 80 4/2/15 GEI	MW118D 70 to 80 11/19/15 GEI	MW118D 70 to 80 4/28/16 GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																																
Volatile Organic Compounds (VOCs)	8260	µg/l																																		
Acetone			50000	50000	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 K-	< 10	< 10 K-	< 10	< 10	< 10	< 10
Benzene			1000	10000	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	NT	NT	< 0.50	0.24 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.6 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	4.8	3.1
Chloroform			50	20,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2,000	20,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	20.3	21.4	31.2	31.7	33.3	34.3	22.8	26.0	22.8	28.7	41.2	39.5	40.0	43.5	36.9	41.4	38.5	39.1	40.6	47.9	46.6	39.3	43.9
1,2-Dichloroethane			5	20,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.55 J	< 1.0	< 1.0	< 1.0	0.79 J K+	0.90 J	1.6	1.8
cis-1,2-Dichloroethylene			20	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.55 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.96 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.3	1.2	1.6	2.7	5.1	6.5	6.8	6.9	5.6	27.8
trans-1,2-Dichloroethylene			90	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.74 J	0.68 J	< 1.0 K+	0.62 J	2.2	2.9
1,2-Dichloropropane			3	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5,000	50,000	<130	<130	<250	<250	<250	<250	<250	<250	<50	<50	NT	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25	< 25	< 25	< 25
Ethylbenzene			20,000	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropyl benzene			NS	NS	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	0.93 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50,000	50,000	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 1.0	0.40 J	< 1.0	0.40 J	< 1.0	< 1.0	0.38 J	0.39 J	0.55 J	0.51 J	< 1.0	0.83 J	< 1.0	0.63 J	< 1.0	0.46 J	< 1.0	1.9 K+	0.69 J	0.89 J	< 1.0
Methylene chloride			2,000	50,000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20,000	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.1 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene			NS	NS	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene			100	6,000	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0
Tetrachloroethylene (PCE)			20	30,000	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	7.0	8.4	8.2	6.1	5.7	7.1	2.1	1.2	< 1.0	2.3	0.93 J	1.1	1.5	4.6	8.4	4.3	5.8	1.3	< 1.0	2.2	5.1	39.7	49.8
Tetrahydrofuran			NS	NS	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F- K-	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			50,000	40,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	0.62 J	< 1.0	0.27 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			900	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	3.9	1.8	0.94 J	1.0	1.9	< 1.0	1.9	1.5	3.0	6.1	6.3	10.0	11.9	7.4	11.5	7.7	7.3	4.3	6.9	4.6	17.6	14.4
1,2,4-Trimethylbenzene			NS	NS	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0
Vinyl chloride			2	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	2.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 G K-	< 1.0	1.9	20.2
m,p-Xylene			3,000	5,000	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3,000	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3,000	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																																
Iron	6010B		NS	NS																																
Manganese	6010B/6010D		NS	NS																																
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																																
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																																
Ethane	8015	µg/l	NS	NS																																
Ethylene	8015	µg/l	NS	NS																																
Alkalinity	E310.1/2320B	µg/l*	NS	NS																																
Chloride	E325.3/9251	µg/l	NS	NS																																
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																																
Iron, Ferrous	3500FE B	µg/l	NS	NS																																
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																																
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																																
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																																
Sodium	6010C	µg/l	NS	NS																																
Sulfate	E375.4/9038	µg/l	NS	NS																																
Sulfide	E376.1	µg/l	NS	NS																																
Surfactants	E425.1/5540C	µg/l	NS	NS																																
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																																

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW118D (cont.)																		MW118S										
Sample Location:					MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S
Sample Name:					MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S
Well Screen Interval (ft bgs):					70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	71 to 80	71 to 80	71 to 80	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14
Sample Date:					11/21/16	4/17/2017	11/8/2017	4/3/2018	11/15/2018	4/15/2019	11/22/2019	4/16/2020	11/18/2020	4/13/2021	11/30/2021	4/12/2022	11/29/2022	4/17/2023	11/7/2023	4/2/2024	11/14/2024	4/22/2025	11/10/2025	2/2/2026	7/20/07	8/30/07	10/11/07	1/11/08	4/16/08	7/15/08	10/21/08	1/14/09	4/15/09	7/15/09
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																												
Volatile Organic Compounds (VOCs)	8260	µg/l																														
Acetone			50000	50000	< 10	<10	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<10	<10	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Benzene			1000	10000	< 0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J+	< 0.50
Bromodichloromethane			6	50000	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
2-Butanone (MEK)			50000	50000	< 10	<10	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Carbon disulfide			NS	NS	< 5.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 J+	< 5.0
Carbon tetrachloride			2	5,000	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
Chlorobenzene			200	1,000	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
Chloroethane			NS	NS	3.1	1.1	3.4	3.7	1.1	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	9	5.6	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
Chloroform			50	20,000	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
Chloromethane			NS	NS	< 2.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
1,4-Dichlorobenzene			60	8,000	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,1-Dichloroethane			2,000	20,000	37.7	34.8	27.4	21.9	20.0	18.6	33.9	44	27	25	22	30	29	28	26	22	<1.0	12	16	24	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,2-Dichloroethane			5	20,000	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,1-Dichloroethylene			80	30,000	0.85 J	0.78 J	< 1.0	< 1.0	< 1.0	<1.0	2.6	2.4	1.3	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
cis-1,2-Dichloroethylene			20	50,000	8.6	7.9	5	4.3	3.7	3.2	57.3	53	10	5.8	4.7	4.1	3.9	3.4	3.1	2.5	1.3	2.3	2.8	2.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
trans-1,2-Dichloroethylene			90	50,000	0.81 J	0.55 J	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,2-Dichloropropane			3	50,000	< 2.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
1,4-Dioxane			5,000	50,000	< 50	<130	< 130	< 130	< 130	< 130	< 130	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<50	<50	NT	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25
Ethylbenzene			20,000	5,000	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	< 10	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropyl benzene			NS	NS	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
4-Isopropyltoluene			NS	NS	< 5.0	<2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	2.6	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Methyl tert-butyl ether			50,000	50,000	1.3	0.81 J	< 1.0	1.1	1.3	1.3	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	1.1	<2.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
Methylene chloride			2,000	50,000	< 2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
Naphthalene			700	20,000	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+
n-Propylbenzene			NS	NS	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Styrene			100	6,000	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS	< 2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30,000	6.5	5.8	2.7	2.7	1.8	1.6	40.9	38	27	2.2	1.1	<1.0	1.1	<1	1.5	<1.0	<1.0	<1.0	<1.0	2.6	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
Tetrahydrofuran			NS	NS	< 10	<10	< 10	< 10	< 10	< 10	< 10	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10
Toluene			50,000	40,000	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,1,2-Trichloroethane			900	50,000	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
Trichloroethylene (TCE)			5	5,000	3.3	2.6	1.7	1.5	1.5	1.1	11.4	11	7.9	2.7	1.7	<1.0	1.1	1.1	1.3	<1.0	<1.0	<1.0	<1.0	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,2,4-Trimethylbenzene			NS	NS	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Vinyl chloride			2	50,000	3.1	0.93 J	2.4	1.9	< 1.0	1.1	11.8	19	3.8	3.3	1.9	<1.0	2.6	2.6	1.3	2.2	<1.0	1.5	<2.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
m,p-Xylene			3,000	5,000	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3,000	5,000	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3,000	5,000	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																												
Iron	6010B		NS	NS																												
Manganese	6010B/6010D		NS	NS																												
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																												
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																												
Ethane	8015	µg/l	NS	NS																												
Ethylene	8015	µg/l	NS	NS																												
Alkalinity	E310.1/2320B	µg/l*	NS	NS																												
Chloride	E325.3/9251	µg/l	NS	NS																												
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																												
Iron, Ferrous	3500FE B	µg/l	NS	NS																												
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																												
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																												
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																												
Sodium	6010C	µg/l	NS	NS																												
Sulfate	E375.4/9038	µg/l	NS	NS																												
Sulfide	E376.1	µg/l	NS	NS																												
Surfactants	E425.1/5540C	µg/l	NS	NS																												
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																												

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

					MW118S (cont.)																MW118T											
Sample Location:					MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T
Sample Name:					MW118S 3 to 14 10/14/09	MW118S 3 to 14 4/12/10	MW118S 3 to 14 4/20/11	MW118S 3 to 14 4/24/13	MW118S 3 to 14 5/1/14	MW118S 3 to 14 4/2/15	MW118S 3 to 14 4/28/16	MW118S 3 to 14 4/17/17	MW118S 3 to 14 4/3/18	MW118S 3 to 14 4/15/19	MW118S 3 to 14 4/16/20	MW118S 3 to 14 4/13/21	MW118S 3 to 14 4/12/22	MW118S 3 to 14 4/17/23	MW118S 3 to 14 4/2/24	MW118S 3 to 14 4/22/25	MW118S 3 to 14 11/10/25	MW118S 3 to 14 2/2/26	MW118T 39.5 to 49.5 7/20/07	MW118T 39.5 to 49.5 8/30/07	MW118T 39.5 to 49.5 10/11/07	MW118T 39.5 to 49.5 1/15/08	MW118T 39.5 to 49.5 4/16/08	MW118T 39.5 to 49.5 7/15/08	MW118T 39.5 to 49.5 10/21/08	MW118T 39.5 to 49.5 1/14/09	MW118T 39.5 to 49.5 4/14/09	MW118T 39.5 to 49.5 7/14/09	MW118T 39.5 to 49.5 10/15/09	MW118T 39.5 to 49.5 4/12/10
Well Screen Interval (ft bgs):																																
Sample Date:																																
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																												
Volatile Organic Compounds (VOCs)	8260	µg/l																														
Acetone			50000	50000	< 5.0	< 5.0 J+	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<10	40	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+
Benzene			1000	10000	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	35.4	34.4	44.2	42.3	42.0	41.9	37.0	33.4	33.6	40.0	53.3 J+	37.8
1,2-Dichloroethane			5	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			20	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.45 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			90	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5,000	50,000	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	<250	<250	<250	<50	NT	NT	< 25	< 25	< 25 J+	< 25	< 25	< 25 J+	< 25	< 25	< 25
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropyl benzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	21.9	< 5.0	2.9 J	6.0	< 5.0	10.3	<2.0	<2.0	<2.0	3.1	<2.0	<2.0	2.8	11	2.3	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50,000	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	2.4	3.1	2.2	2.5	2.2	2.3	2.0	1.9	7.5	1.2
Methylene chloride			2,000	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene			100	6,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.29 J	< 1.0	0.38 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.0	3.8	2.2	2.9	2.7	2.5	2.4	2.1	2.0	1.7	2.8	1.6
Tetrahydrofuran			NS	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10
Toluene			50,000	40,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	0.31 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.50 J	0.80 J	< 1.0
1,2,4-Trimethylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl chloride			2	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT											NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT						
Arsenic	6010B		NS	900																														
Iron	6010B		NS	NS																														
Manganese	6010B/6010D		NS	NS																														
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																														
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																														
Ethane	8015	µg/l	NS	NS																														
Ethylene	8015	µg/l	NS	NS																														
Alkalinity	E310.1/2320B	µg/l*	NS	NS																														
Chloride	E325.3/9251	µg/l	NS	NS																														
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																														
Iron, Ferrous	3500FE B	µg/l	NS	NS																														
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																														
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																														
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																														
Sodium	6010C	µg/l	NS	NS																														
Sulfate	E375.4/9038	µg/l	NS	NS																														
Sulfide	E376.1	µg/l	NS	NS																														
Surfactants	E425.1/5540C	µg/l	NS	NS																														
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																														

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW-2 Standard	Method 1 GW-3 Standard	MW118T (cont.)																MW119S										
Sample Location:					MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S
Sample Name:					MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S
Well Screen Interval (ft bgs):					39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:					4/20/11	4/17/12	4/24/13	5/1/14	4/3/15	4/28/16	4/17/17	4/3/18	4/16/19	4/17/20	4/13/21	4/12/22	4/17/23	4/2/24	4/22/25	11/10/25	2/2/26	8/22/07	10/12/07	1/15/08	4/16/08	7/15/08	10/22/08	1/13/09	4/13/09	7/15/09	10/15/09	4/13/10
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																													
Acetone			50000	50000	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0
Benzene			1000	10000	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	< 0.50 J+	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2,000	20,000	35.9	28.8	26.9	28.4	31.3	31.3	26.7	22.4	5.8	23	16	1.5	15	9.6	7.3	7.4	9.3	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			5	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.36 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			20	50,000	< 1.0	< 1.0	< 1.0	< 1.0	0.45 J	< 1.0	0.55 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			90	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5,000	50,000	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	<250	<250	<50	<50	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropyl benzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.5	1	<2.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50,000	50,000	2.4	1.8	7.1	0.94 J	1.5	1.1	1.9	1.6	<1.0	2.1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	5.2 J+	2.0	2.1	0.83 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			2,000	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0
n-Propylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene			100	6,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30,000	2.1	2.1	1.5	1.0	1.3	2.0	0.90 J	<1.0	<1.0	1.4	1.1	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			NS	NS	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			50,000	40,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5,000	< 1.0	< 1.0	< 1.0	< 1.0	0.26 J	0.62 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl chloride			2	50,000	< 1.0	< 1.0 K+	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																											
Iron	6010B		NS	NS																											
Manganese	6010B/6010D		NS	NS																											
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																											
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																											
Ethane	8015	µg/l	NS	NS																											
Ethylene	8015	µg/l	NS	NS																											
Alkalinity	E310.1/2320B	µg/l*	NS	NS																											
Chloride	E325.3/9251	µg/l	NS	NS																											
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																											
Iron, Ferrous	3500FE B	µg/l	NS	NS																											
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																											
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																											
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																											
Sodium	6010C	µg/l	NS	NS																											
Sulfate	E375.4/9038	µg/l	NS	NS																											
Sulfide	E376.1	µg/l	NS	NS																											
Surfactants	E425.1/5540C	µg/l	NS	NS																											
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																											

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

| | | | | | MW119S (cont.) | | | | |

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW-2 Standard	Method 1 GW-3 Standard	MW119T (cont.)												MW120D																	
Sample Location:					MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D
Sample Name:					MW119T 42 to 47 4/2/15 GEI	MW119T 42 to 47 4/28/16 GEI	MW119T 42 to 47 4/18/17 GEI	MW119T 42 to 47 4/3/18 GEI	MW119T 42 to 47 4/16/19 GEI	MW119T 42 to 47 4/17/20 GEI	MW119T 42 to 47 4/14/21 GEI	MW119T 42 to 47 4/13/22 GEI	MW119T 42 to 47 4/17/23 GEI	MW119T 42 to 47 4/2/24 GEI	MW119T 42 to 47 4/22/25 GEI	MW119T 42 to 47 11/13/25 GEI	MW119T 42 to 47 2/4/26 GEI	MW120D 28 to 38 8/22/07 GEI	MW120D 28 to 38 10/12/07 GEI	MW120D 28 to 38 1/17/08 GEI	MW120D 28 to 38 4/16/08 GEI	MW120D 28 to 38 7/15/08 GEI	MW120D 28 to 38 10/22/08 GEI	MW120D 28 to 38 1/13/09 GEI	MW120D 28 to 38 4/14/09 GEI	MW120D 28 to 38 7/15/09 GEI	MW120D 28 to 38 10/15/09 GEI	MW120D 28 to 38 4/13/10 GEI	MW120D 28 to 38 4/22/11 GEI	MW120D 28 to 38 4/16/12 GEI	MW120D 28 to 38 4/23/13 GEI	MW120D 28 to 38 5/1/14 GEI	MW120D 28 to 38 4/3/15 GEI	MW120D 28 to 38 4/28/16 GEI	MW120D 28 to 38 4/18/17 GEI	MW120D 28 to 38 4/4/18 GEI	MW120D 28 to 38 4/16/19 GEI
Well Screen Interval (ft bgs):																																		
Sample Date:																																		
Collected By:																																		
Volatile Organic Compounds (VOCs)	8260	µg/l																																
Acetone			50000	50000	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10	<10	<10
Benzene			1000	10000	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10
Carbon disulfide			NS	NS	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
Carbon tetrachloride			2	5,000	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Chlorobenzene			200	1,000	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Chloroethane			NS	NS	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0
Chloroform			50	20,000	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Chloromethane			NS	NS	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	12.0 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	0.85 J	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			2,000	20,000	5.9	4.4	4.9	4.0	1.8	4.3	2.7	1.1	2.6	2.2	2.2	<1.0	2.6	23.0 J+	26.0	23.2	30.8	29.5	21.8	21.4	20.9	18.4	31.1 J+	25.1	23.1	17.0	15.8	16.2	16.2	11.6	11.4	12.8	3.1
1,2-Dichloroethane			5	20,000	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			80	30,000	4.5	3.4	3.7	2.4	<1.0	3.3	1.9	<1.0	2.6	<1.0	<1.0	<1.0	2.4	15.6 J+	18.9	14.3	17.8	22.0	18.4	16.7	16.9	14.1	24.7 J+	19.4	23.8	15.5	14.8	16.7	16.8	8.2	9.7	14.1	1.3
cis-1,2-Dichloroethylene			20	50,000	0.70 J	0.65 J	0.82 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.70 J J+	< 1.0	1.7	1.9	1.9	1.6	0.70 J	1.6	1.5	1.8 J+	1.7	2.4	1.4	1.1	< 1.0	0.95 J	0.64 J	0.81 J	<1.0	<1.0
trans-1,2-Dichloroethylene			90	50,000	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			3	50,000	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0
1,4-Dioxane			5,000	50,000	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	<250	<250	<50	<50	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0
Isopropyl benzene			NS	NS	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			50,000	50,000	0.98 J	< 1.0	0.55 J	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	6.8 J+	3.9	3.2	4.2	3.8	6.6	2.8	2.4	2.0	7.5	2.2	2.2	1.4	7.1 K-	0.78 J	1.1	< 1.0	1.1	<1.0	<1.0
Methylene chloride			2,000	50,000	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0
Naphthalene			700	20,000	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	0.68 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0
n-Propylbenzene			NS	NS	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0
Styrene			100	6,000	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			20	30,000	54.5	55.7	50.6	33.0	2.6	52.0	32.0	3.1	36	5.2	3.3	1.7	28	93.5 J+	120	113	131	103	118	84.2	114	99.3	95.0	95.9	75.0	78.5	72.0	66.4	52.9	40.4	35.2	49.9	7.7
Tetrahydrofuran			NS	NS	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10
Toluene			50,000	40,000	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	1.1	< 1.0	0.25 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10.3 J+	4.3	3.2	< 1.0	3.9	6.4	2.8	3.7	2.5	3.3	3.5	4.3	2.0	2.6	1.7	2.1	1.1	0.45 J	1.1	<1.0
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			5	5,000	20.2	18.3	17.6	12.8	2.5	17.0	10.0	1.6	10.0	3.5	3	1.3	10	32.6 J+	40.1	34.7	43.4	38.7	33.2	30.4	33.8	32.0	33.1	34.8	28.3	26.1	23.6	22.1	21.4	15.7	13.8	18.6	3.4
1,2,4-Trimethylbenzene			NS	NS	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0
Vinyl chloride			2	50,000	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	0.38 J	0.35 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.43 J	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1.0	0.89 J	< 1.0	<1.0	<1.0	<1.0
m,p-Xylene			3,000	5,000	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT												NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																																
Iron	6010B		NS	NS																																
Manganese	6010B/6010D		NS	NS																																
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																																
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																																
Ethane	8015	µg/l	NS	NS																																
Ethylene	8015	µg/l	NS	NS																																
Alkalinity	E310.1/2320B	µg/l*	NS	NS																																
Chloride	E325.3/9251	µg/l	NS	NS																																
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																																
Iron, Ferrous	3500FE B	µg/l	NS	NS																																
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																																
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																																
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																																
Sodium	6010C	µg/l	NS	NS																																
Sulfate	E375.4/9038	µg/l	NS	NS																																
Sulfide	E376.1	µg/l	NS	NS																																
Surfactants	E425.1/5540C	µg/l	NS	NS																																
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																																

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW120D (cont.)										MW120S																					
Sample Location:					MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S
Sample Name:					MW120D 28 to 38 4/17/20 GEI	MW120D 28 to 38 4/14/21 GEI	MW120D 28 to 38 4/13/22 GEI	MW120D 28 to 38 4/18/23 GEI	MW120D 28 to 38 4/3/24 GEI	MW120D 28 to 38 4/3/24 GEI	MW120D 28 to 38 4/22/25 GEI	MW120D 28 to 38 11/11/25 GEI	MW120D 28 to 38 2/4/26 GEI	MW120D 28 to 38 2/4/26 GEI	MW120S 5 to 20 8/22/07 GEI	MW120S 5 to 20 10/12/07 GEI	MW120S 5 to 20 1/15/08 GEI	MW120S 5 to 20 4/16/08 GEI	MW120S 5 to 20 7/15/08 GEI	MW120S 5 to 20 10/22/08 GEI	MW120S 5 to 20 1/13/09 GEI	MW120S 5 to 20 4/14/09 GEI	MW120S 5 to 20 7/15/09 GEI	MW120S 5 to 20 10/15/09 GEI	MW120S 5 to 20 4/13/10 GEI	MW120S 5 to 20 4/22/11 GEI	MW120S 5 to 20 4/16/12 GEI	MW120S 5 to 20 4/23/13 GEI	MW120S 5 to 20 5/1/14 GEI	MW120S 5 to 20 4/3/15 GEI	MW120S 5 to 20 4/28/16 GEI	MW120S 5 to 20 4/18/17 GEI	MW120S 5 to 20 4/4/18 GEI	MW120S 5 to 20 4/16/19 GEI	MW120S 5 to 20 4/17/20 GEI	MW120S 5 to 20 4/14/21 GEI	MW120S 5 to 20 4/13/22 GEI	MW120S 5 to 20 4/18/23 GEI
Well Screen Interval (ft bgs):																																			
Sample Date:																																			
Collected By:																																			
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																																	
Volatile Organic Compounds (VOCs)	8260	µg/l																																	
Acetone			50000	50000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0		< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	4.2 J K-	< 10	< 10	< 10	9.3 J	<10	<10	<10	5.3	<5.0	<5.0	<5.0
Benzene			1000	10000	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	<0.50		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5
Bromodichloromethane			6	50000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			50000	50000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0		< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		0.56 J J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			2	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			200	1,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Chloroform			50	20,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		1.9 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		10.3 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			60	8,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			2,000	20,000	16.0	12.0	3.8	1.7	1.6	1.9	1.9	8.2	4.1		1.1 J+	4.3	< 1.0	< 1.0	2.5	< 1.0	< 1.0	< 1.0	0.36 J	< 1.0	< 1.0	< 1.0	0.52 J	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			5	20,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			80	30,000	14	10	1.6	1.6	1.2	1.3	1.3	8.3	3.3		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			20	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			90	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			3	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			5,000	50,000	<250	<250	<250	<250	<250	<250	<250	<50	<250		< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			20,000	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			NS	NS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0		< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Isopropyl benzene			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
4-Isopropyltoluene			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			50,000	50,000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			2,000	50,000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			700	20,000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
n-Propylbenzene			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Styrene			100	6,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tert-amyl methyl ether			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			10	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			20	30,000	59.0	36.0	6.5	5.2	4.7	5	5	31	11		< 1.0	< 1.0	0.97 J	< 1.0	< 1.0	0.71 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			50,000	40,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	1.2	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			900	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			5	5,000	21.0	14.0	2.9	2.0	2.0	2.2	2.2	13.0	4.7		< 1.0	< 1.0	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Vinyl chloride			2	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			3,000	5,000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			3,000	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			3,000	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT							
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																															
Iron	6010B		NS	NS																															
Manganese	6010B/6010D		NS	NS																															
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																															
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																															
Ethane	8015	µg/l	NS	NS																															
Ethylene	8015	µg/l	NS	NS																															
Alkalinity	E310.1/2320B	µg/l*	NS	NS																															
Chloride	E325.3/9251	µg/l	NS	NS																															
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																															
Iron, Ferrous	3500FE B	µg/l	NS	NS																															
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																															
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																															
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																															
Sodium	6010C	µg/l	NS	NS																															
Sulfate	E375.4/9038	µg/l	NS	NS																															
Sulfide	E376.1	µg/l	NS	NS																															
Surfactants	E425.1/5540C	µg/l	NS	NS																															
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																															

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

					Sample Location:	MW120S (cont.)				MW121D																		
					Sample Location:	MW120S	MW120S	MW120S	MW120S	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D
					Sample Name:	MW120S	MW120S	MW120S	MW120S	MW121D	MW121D	MW121D	MW121D	MW901	MW121D	MW121D	MW900 (FD)	MW121D	MW121D	MW900 (FD)	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D
					Well Screen Interval (ft bgs):	5 to 20	5 to 20	5 to 20	5 to 20	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1
					Sample Date:	4/2/24	4/22/25	11/11/25	2/4/26	10/22/07	1/15/08	4/17/08	7/14/08	7/14/08	10/22/08	10/22/08	10/22/08	1/12/09	1/12/09	1/12/09	4/13/09	4/13/09	7/14/09	7/14/09	10/14/09	4/12/10	4/20/11	4/16/12	11/12/12	4/23/13	11/18/13	4/30/14	11/18/14
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																											
Volatile Organic Compounds (VOCs)	8260	µg/l																													
Acetone			50000	50000	<5.0	<5.0	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0 K-	< 5.0 K-	< 10	< 10 K-	< 10	< 10
Benzene			1000	10000	<0.5	<0.50	<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.3	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5,000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1,000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G
Chloroform			50	20,000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G
1,4-Dichlorobenzene			60	8,000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2,000	20,000	<1.0	<1.0	<1.0	<1.0	46.3	55.3	46.6	37.2	38.1	36.1	34.2	38.2	38.3	37.2	38.1	37.6	37.9	54.8	52.9	65.8	67.7	49.9	63.4	32.1	45.0	149.0
1,2-Dichloroethane			5	20,000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30,000	<1.0	<1.0	<1.0	<1.0	13.2	< 1.0	16.7	12.8	12.6	12.9 G	8.4 G	14.0	14.2	14.1	14.2	11.0	10.4	21.8	18.0	24.1	25.5	17.6	22.3	12.7	17.6	59.7 K+
cis-1,2-Dichloroethylene			20	50,000	<1.0	<1.0	<1.0	<1.0	3.9	11.8	6.4	21.8	22.6	83.7 G	41.2 G	134	138	80.0	78.4	105	106	253	279	217	178	122	193	67.2	133	316
trans-1,2-Dichloroethylene			90	50,000	<1.0	<1.0	<1.0	<1.0	< 1.0	0.70 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.8	< 1.0	< 1.0	2.9	< 1.0	1.5	0.57 J K+
1,2-Dichloropropane			3	50,000	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5,000	50,000	<250	<250	<50	<50	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25 K-	< 25 K-
Ethylbenzene			20,000	5,000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0
Isopropyl benzene			NS	NS	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50,000	50,000	<2.0	<2.0	<2.0	<2.0	3.0	3.8	2.4	2.1	2.0	5.6	5.6	1.8	1.8	1.7	1.9	1.4	1.4	< 1.0	0.94 J	2.0	1.7	2.1	8.6 K-	2.7	2.3	7.1 K+
Methylene chloride			2,000	50,000	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20,000	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene			NS	NS	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene			100	6,000	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50,000	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30,000	<1.0	<1.0	<1.0	<1.0	182	258	177	157	154	148 G	97.7 G	112	114	121	118	140	139	115	119	219	356	223	276	124	163	224
Tetrahydrofuran			NS	NS	<2.0	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10	< 10	< 10	< 10	< 10	< 10 F- K-	< 10	< 10	< 10 G	< 10
Toluene			50,000	40,000	<1.0	<1.0	<1.0	<1.0	0.51 J	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	<1.0	<1.0	<1.0	<1.0	1.2	1.3	1.2	1.1	1.0	4.9	4.6	0.87 J	0.86 J	1.0	< 1.0	0.95 J	1.0	< 1.0	0.62 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.53 J	0.44 J
1,1,2-Trichloroethane			900	50,000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5,000	<1.0	<1.0	<1.0	<1.0	59.6	136	68.8	71.0	72.0	48.3 G	69.0 G	36.5	36.3	62.3	70.7	76.3	76.5	146.0	96.3	233.0	342	207	342	115	236	432
1,2,4-Trimethylbenzene			NS	NS	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl chloride			2	50,000	<1.0	<1.0	<1.0	<1.0	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.32 J	0.31 J	< 1.0	< 1.0	0.56 J	0.52 J	< 1.0	< 1.0	7.4	15.2	8.5	10.2	3.4	9.5	38.4 G K-
m,p-Xylene			3,000	5,000	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3,000	5,000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3,000	5,000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons (TPH)		mg/L				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																											
Iron	6010B		NS	NS																											
Manganese	6010B/6010D		NS	NS																											
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																											
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																											
Ethane	8015	µg/l	NS	NS																											
Ethylene	8015	µg/l	NS	NS																											
Alkalinity	E310.1/2320B	µg/l*	NS	NS																											
Chloride	E325.3/9251	µg/l	NS	NS																											
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																											
Iron, Ferrous	3500FE B	µg/l	NS	NS																											
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																											
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																											
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																											
Sodium	6010C	µg/l	NS	NS																											
Sulfate	E375.4/9038	µg/l	NS	NS																											
Sulfide	E376.1	µg/l	NS	NS																											
Surfactants	E425.1/5540C	µg/l	NS	NS																											
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																											

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW121D (cont.)																					
Sample Location:					MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D
Sample Name:					MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D
Well Screen Interval (ft bgs):					32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1
Sample Date:					4/2/15	11/19/15	4/28/16	11/21/16	4/17/17	11/8/17	4/3/18	11/15/18	4/15/19	11/22/19	4/16/20	11/18/20	4/13/21	11/30/21	4/13/22	11/29/22	4/18/23	11/7/23	4/3/24	11/14/24	4/23/25	11/11/25	2/3/26
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																						
Volatile Organic Compounds (VOCs)	8260	µg/l																								
Acetone			50000	50000	< 10	< 10	8.7 J	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<10	<10
Benzene			1000	10000	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			2	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			200	1,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	3.4	<2.0	<2.0	2
Chloroform			50	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			2,000	20,000	55.7	35.9	40.2	109.0	32.0	47.6	14.8	14.0	18.8	18.0	16	12	18	18	18	38	24	25	2.1	19	8.4	4.6	18
1,2-Dichloroethane			5	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			80	30,000	23.5	14.5	14.9	35.9	14.8	15.3	7.6	7.0	7.7	8.7	8.6	8.0	7.5	6.3	2.3	7.3	5.5	5.7	<1.0	4.1	1.4	1	3.4
cis-1,2-Dichloroethylene			20	50,000	186	73.6	108	271	79.9	119	24.8	44.3	73.5	85.4	20	26	37	18	33	11	17	16	2.8	8.4	9	3.9	15
trans-1,2-Dichloroethylene			90	50,000	<1.0	<1.0	<1.0	1.1	0.37 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			3	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			5,000	50,000	<25	<25	<25	< 50	< 130	< 130	< 130	< 130	< 130	< 130	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<50	<50
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0
Isopropyl benzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			50,000	50,000	2.1	1.6	0.72 J	1.7	1.4	1.4	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.3	3.3	2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			2,000	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			700	20,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0
n-Propylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0
Styrene			100	6,000	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			10	50,000	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			20	30,000	216	216	227	139	160	242	78	47.5	48.2	64.8	87	58	72	52	1.9	54	35	35	<1.0	26	1.6	2.1	9.9
Tetrahydrofuran			NS	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0
Toluene			50,000	40,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	1.4	0.56 J	1.1	< 1.0	0.45 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			5	5,000	266	148	262	176	159	310	39.7	23.5	31.1	40.0	34	22	40	27	5	32.0	20.0	23	<1.0	14	4.5	4.1	13
1,2,4-Trimethylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0
Vinyl chloride			2	50,000	15	7.5	18.2	23.3	6.6	10.4	<1.0	6.1	9	4.5	<1.0	2.0	1.5	1.0	31.0	3.0	8.6	3.2	2.0	1.7	2.8	<2.0	4.8
m,p-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																						
Iron	6010B		NS	NS																						
Manganese	6010B/6010D		NS	NS																						
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																						
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																						
Ethane	8015	µg/l	NS	NS																						
Ethylene	8015	µg/l	NS	NS																						
Alkalinity	E310.1/2320B	µg/l*	NS	NS																						
Chloride	E325.3/9251	µg/l	NS	NS																						
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																						
Iron, Ferrous	3500FE B	µg/l	NS	NS																						
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																						
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																						
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																						
Sodium	6010C	µg/l	NS	NS																						
Sulfate	E375.4/9038	µg/l	NS	NS																						
Sulfide	E376.1	µg/l	NS	NS																						
Surfactants	E425.1/5540C	µg/l	NS	NS																						
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																						

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW122	MW122	MW122	MW122	MW122	MW122
Sample Location:					MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW122	MW122	MW122	MW122	MW122	MW122
Sample Name:					MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW122	MW122	MW122	MW122	MW122	MW122
Well Screen Interval (ft bgs):					5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16
Sample Date:					10/22/07	1/15/08	4/17/08	7/14/08	10/22/08	1/12/09	4/13/09	7/14/09	10/14/09	4/12/10	4/20/11	4/16/12	4/23/13	4/30/14	4/2/15	4/28/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/13/22	4/13/22	4/3/24	4/23/25	11/11/25	2/3/26	1/30/08	4/17/08	7/14/08	10/22/08	1/12/09	4/13/09
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																																		
Volatile Organic Compounds (VOCs)	8260	µg/l																																		
Acetone			50000	50000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 5.0 J+	< 5.0	8.2 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	< 5.0 J+	9.6 J	11.1	7.2	5.7	< 5.0
Benzene			1000	10000	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<1.0	<1.0	< 0.50	< 1.0	0.46 J	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	1.1 J	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0 J+	< 10	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	13.4	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	0.61 J	< 1.0	< 1.0
Chloromethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 4.0	< 2.0	< 2.0 J+	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	19.3	30.4 C+	10.1	15.0	16.0	25.8
1,2-Dichloroethane			5	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.0	9.0 C+	1.4	4.4	3.4	6.1
cis-1,2-Dichloroethylene			20	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	60.6	70.7 C+	34.0	62.5	91.5	61.9
trans-1,2-Dichloroethylene			90	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.87 J	< 2.0	< 1.0	< 1.0	< 1.0	0.93 J
1,2-Dichloropropane			3	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5,000	50,000	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25 K-	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	<250	<250	<50	<50	< 25	< 50	< 25	< 25	< 25	< 25
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0 J+	< 10	< 5.0	< 5.0	< 5.0	< 5.0
Isopropyl benzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50,000	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.3	3.9 C+	1.9	5.6	2.5	3.2
Methylene chloride			2,000	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20,000	< 5.0	5.2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 10	2.6 J	< 5.0	< 5.0	< 5.0
n-Propylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0
Styrene			100	6,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	477	691 C+	122	352 G	312	499 G
Tetrahydrofuran			NS	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 10	< 20	< 10	< 10	< 10	< 10
Toluene			50,000	40,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	6.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.48 J	< 2.0	2.8	3.7	0.64 J	2.4
1,1,1-Trichloroethane (TCA)			4,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	3.4 C+	0.63 J	5.1	1.1	1.7
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	177	106 C+	27.0	56.9	59.6	91.7
1,2,4-Trimethylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl chloride			2	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.32 J	< 2.0	< 1.0	< 1.0	1.2	< 1.0
m,p-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 2.0	0.92 J	< 1.0	< 1.0	< 1.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	0.67 J	< 1.0	< 1.0	< 1.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	1.6 J	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																																
Iron	6010B		NS	NS																																
Manganese	6010B/6010D		NS	NS																																
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																																
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																																
Ethane	8015	µg/l	NS	NS																																
Ethylene	8015	µg/l	NS	NS																																
Alkalinity	E310.1/2320B	µg/l*	NS	NS																																
Chloride	E325.3/9251	µg/l	NS	NS																																
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																																
Iron, Ferrous	3500FE B	µg/l	NS	NS																																
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																																
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																																
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																																
Sodium	6010C	µg/l	NS	NS																																
Sulfate	E375.4/9038	µg/l	NS	NS																																
Sulfide	E376.1	µg/l	NS	NS																																
Surfactants	E425.1/5540C	µg/l	NS	NS																																
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																																

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW122 (cont.)																															
Sample Location:					MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122
Sample Name:					MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122
Well Screen Interval (ft bgs):					4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16
Sample Date:					7/15/09	10/14/09	4/12/10	10/27/10	4/20/11	11/16/11	4/17/12	11/12/12	4/23/13	11/18/13	4/30/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16	4/17/2017	11/8/2017	4/3/2018	11/15/2018	4/16/2019	11/22/2019	4/16/2020	11/18/2020	4/13/2021	11/30/2021	4/13/2022	11/29/2022	4/17/2023	11/7/2023	4/4/2024
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																																	
Volatile Organic Compounds (VOCs)	8260	µg/l																																			
Acetone			50000	50000	< 5.0 F-	< 10	3.8 J+	< 5.0	17.8	< 5.0	< 5.0	< 25 K-	< 50	< 50 K-	< 20	< 20	< 20	< 10	9.4 J	< 40	< 50	< 10	<50	<50	<20	<50	<50	<50	<25	<100	<100	<50	<50	<5.0	<10
Benzene			1000	10000	0.23 J	< 1.0	< 0.50	< 0.50	< 1.0	< 0.50	< 0.50	< 2.5	< 2.5	< 2.5	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 2.0	< 2.5	< 0.50	<2.5	<2.5	<1.0	<2.5	<5.0	<5.0	<2.5	<10	<10	<5	<5	<0.50	<1
Bromodichloromethane			6	50000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10	<1.0	<2.0
2-Butanone (MEK)			50000	50000	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25 K-	< 25	< 25	< 10	< 10	< 10	17.3 J	< 10	< 40	< 50	< 10	<50	<50	<20	<50	<50	<50	<50	<100	<100	<50	<50	<5.0	<10
Carbon disulfide			NS	NS	< 5.0 F-	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 10	< 2.0	<10	<10	<4.0	<10	<20	<20	<5	<40	<40	<20	<20	<2.0	<4.0
Carbon tetrachloride			2	5,000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5	<20	<20	<10	<10	<1.0	<2.0
Chlorobenzene			200	1,000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10	<1.0	<2.0
Chloroethane			NS	NS	< 2.0 F-	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0 G	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<20	<20	<10	<40	<40	<20	<20	<2.0	<4.0
Chloroform			50	20,000	< 1.0	0.75 J	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	<10	<1.0	<2.0
Chloromethane			NS	NS	< 2.0 F-	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0 G	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<20	<20	<10	<40	<40	<20	<20	<2.0	<4.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5	<20	<20	<10	<10	<1.0	<2.0
1,1-Dichloroethane			2,000	20,000	21.2	20.8	29.6	20.3	19.1	15.2	17.2	14.4	11.1	12.7	15.9	12.8	15.0	6.8	18.3	20.5	30.9	14.8	22.7	17.0	18.8	16.4	29	48	44	46	35	24	18	16	3.1
1,2-Dichloroethane			5	20,000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10	<1.0	<2.0
1,1-Dichloroethylene			80	30,000	5.3 F-	6.6	7.3	4.6	8.3	4.1	6.4	4.7 J	4.1 J	4.4 J	5.1	3.8 K+	4.5	1.6 J	5.8	5.6	7.7	3.9	8.1	7.3	6.1	6.9	<10	12	6.9	<20	<20	<10	<10	7.7	<2.0
cis-1,2-Dichloroethylene			20	50,000	39.4	109.0	58.6	117	45.5	66.4	61.5	84.7	56.2	67.2	68.0	69.3	43.8	75.7	61.3	68.5	67.2	50	64.4	71.0	69.1	95.8	150	150	110	130	130	180	110	130	22
trans-1,2-Dichloroethylene			90	50,000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0 K+	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	<10	<1.0	<2.0
1,2-Dichloropropane			3	50,000	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	<10	<1.0	<2.0
1,4-Dioxane			5,000	50,000	< 25	< 50	< 25	< 25	< 50	< 25	< 25 K-	< 130	< 260	< 260	< 50 K-	< 50 K-	< 50	< 50	< 50	< 200	< 630	< 130	<630	<630	<250	<630	<2500	<2500	<1200	<5000	<5000	<2500	<2500	<250	<500
Ethylbenzene			20,000	5,000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10	<1.0	<2.0
2-Hexanone			NS	NS	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25 K-	< 10	< 10	< 10	< 10	< 10	< 40	< 25	< 5.0	<25	<25	<2.0	<25	<50	<50	<25	<100	<100	<50	<50	<5.0	<10
Isopropyl benzene			NS	NS	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 5.0	< 1.0	< 5.0	< 5.0	< 2.0	< 5.0	<20	<20	<10	<40	<40	<20	<20	<2.0	<4.0
4-Isopropyltoluene			NS	NS	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 10	< 20	< 10	< 2.0	<10	<10	<4.0	<10	<20	<20	<20	<40	<40	<20	<20	<2.0	<4.0
Methyl tert-butyl ether			50,000	50,000	3.3	2.9	2.3	2.7	2.9	2.1	2.7	2.2 J	< 5.0 K-	< 5.0	1.5 J	2.6 K+	1.8	1.0 J	1.2	< 4.0	3.7	1.1	<5.0	<5.0	2.1	<5.0	<20	<20	<10	<40	<40	<20	<20	2.9	<4.0
Methylene chloride			2,000	50,000	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	1.1 J	< 2.0	39.4	< 10	< 2.0	<10	<10	<4.0	<10	<20	<20	<20	<40	<40	<20	<20	<2.0	<4.0
Naphthalene			700	20,000	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 25	< 5.0	<25	<25	<10	<25	<20	<20	<10	<40	<40	<20	<20	<2.0	<4.0
n-Propylbenzene			NS	NS	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 10	< 2.0	< 10	< 10	< 4.0	< 10	<20	<20	<10	<40	<40	<20	<20	<2.0	<4.0
Styrene			100	6,000	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 5.0	< 1.0	< 5.0	< 5.0	< 2.0	< 5.0	<10	<10	< 5.0	<20	<20	<10	<10	<1.0	<2.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	< 8.0	< 10	< 2.0	<10	<10	<4.0	<10	<20	<20	<10	<40	<40	<20	<20	<2.0	<4.0
1,1,1,2-Tetrachloroethane			10	50,000	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	<2.0	<2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	<10	<1.0	<2.0
Tetrachloroethylene (PCE)			20	30,000	677	518	856	532	656	581	1000	811	938	726	592	499	784	326	734	684	910	579	959	1150	1060	961	1200	1400	820	1600	1700	1200	1700	1600	170
Tetrahydrofuran			NS	NS	< 10	< 20	< 10	< 10	< 20	< 10	< 10	< 50 F- K-	< 50	< 50	< 20 G	< 20	< 20	< 20	< 10	< 40	< 50	< 10	<50	<50	<2.0	<50	<20	<20	<10	<40	<40	<20	<20	<2.0	<4.0
Toluene			50,000	40,000	1.6	< 4.0	6.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	6	< 2.0	0.79 J	0.72	< 2.0	< 1.0	< 4.0	< 5.0	20.7	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10	<1.0	<2.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	1.7	< 2.0	1.5	< 1.0	7.5	1.4	2.2	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	2.0	< 2.0	0.92 J	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10	<1.0	<2.0
1,1,2-Trichloroethane			900	50,000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	<10	<1.0	<2.0
Trichloroethylene (TCE)			5	5,000	90.2	81.1	119.0	82.1	73.1	79.0	103	88.0	93.4	76.0	98.9	58.9	82.9	44.9	98.3	87.1	102.0	63.3	110.0	122	121	131	140	170	130	220	210	160	170	200	41
1,2,4-Trimethylbenzene			NS	NS	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 10	< 2.0	< 10	< 10	< 4.0	< 10	<20	<20	<10	<40	<40	<20	<20	<2.0	<4.0
Vinyl chloride			2	50,000	< 1.0 F-	4.3	< 1.0	3.6	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0 K-	1.8	1.2	0.73 J	< 4.0	< 5.0	1.3	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10	1.6	<2.0
m,p-Xylene			3,000	5,000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<20	<20	<10	<40	<40	<20	<20	<2.0	<4.0
o-Xylene			3,000	5,000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10	<1.0	<2.0
Total Xylene			3,000	5,000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10	<1.0	<2.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																																
Iron	6010B		NS	NS																																
Manganese	6010B/6010D		NS	NS																																
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																																
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																																
Ethane	8015	µg/l	NS	NS																																
Ethylene	8015	µg/l	NS	NS																																
Alkalinity	E310.1/2320B	µg/l*	NS	NS																																
Chloride	E325.3/9251	µg/l	NS	NS																																
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																																
Iron, Ferrous	3500FE B	µg/l	NS	NS																																
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																																
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																																
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																																
Sodium	6010C	µg/l	NS	NS																																
Sulfate	E375.4/9038	µg/l	NS	NS																																
Sulfide	E376.1	µg/l	NS	NS																																
Surfactants	E425.1/5540C	µg/l	NS	NS																																
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																																

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

					MW122 (cont.)						MW201								MW202											
Sample Location:					MW122	MW122	MW122	MW122	MW122	MW122	MW201	MW201	MW201	MW201	MW201	MW201	MW201	MW201	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202
Sample Name:					MW122	MW122	MW122	MW122	MW122	MW122	MW201	MW201	MW201	MW201	MW201	MW201	MW201	MW201	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202
Well Screen Interval (ft bgs):					4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	11 to 21	11 to 21	11 to 21	11 to 21	11 to 21	11 to 21	11 to 21	11 to 21	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5
Sample Date:					11/14/2024	4/24/2025	11/12/2025	1/7/2026	2/4/2026	3/10/2026	7/19/07	10/12/07	1/11/08	4/15/08	4/3/24	4/23/25	11/12/25	2/3/26	7/19/07	10/12/07	1/11/08	4/15/08	7/15/08	10/21/08	1/13/09	4/15/09	7/14/09	10/14/09	4/12/10	4/22/11	4/17/12	4/23/13
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																										
Volatile Organic Compounds (VOCs)	8260	µg/l																												
Acetone			50000	50000	< 50	<50	<50	< 20	<20	< 5.0	NT	< 5.0 J+	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10
Benzene			1000	10000	< 5	<5.0	<5.0	< 2.0	<2.0	< 0.50	NT	< 0.50	< 0.50	< 0.50	<0.5	<0.50	<0.50	<0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J+	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000	< 10	<10	<10	< 2.0	<4.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000	< 50	<50	<50	< 20	<20	< 5.0	NT	< 5.0 J+	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS	< 20	<20	<20	< 10	<8.0	< 2.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5,000	< 10	<10	<10	< 2.0	<4.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1,000	< 10	<10	<10	< 2.0	<4.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS	< 20	<20	<20	< 4.0	<8.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20,000	< 10	<10	<10	< 4.0	<4.0	< 1.0	NT	0.47 J	0.40 J	0.24 J	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.89 J	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS	< 20	<20	<20	< 4.0	<8.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8,000	< 10	<10	<10	< 2.0	<4.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2,000	20,000	12	<10	<10	4.5	<4.0	1.1	< 1.0	0.66 J	< 1.0	0.23 J	<1.0	<1.0	<1.0	<1.0	0.50 J	< 1.0	< 1.0	0.46 J	< 1.0	< 1.0	0.34 J	< 1.0	< 1.0	3.1	5.0	1.1	< 1.0	< 1.0
1,2-Dichloroethane			5	20,000	< 10	<10	<10	< 2.0	<4.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30,000	< 10	<10	<10	< 2.0	<4.0	< 1.0	4.7	4.9	5.2	3.0	1.3	<1.0	<1.0	<1.0	1.1	< 1.0	< 1.0	2.9	2.8	1.6	1.9	3.2	< 1.0	< 1.0	< 1.0	15.5	< 1.0	2.4
cis-1,2-Dichloroethylene			20	50,000	140	76	410	130	68	19	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			90	50,000	< 10	<10	<10	< 2.0	<4.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50,000	< 10	<10	<10	< 2.0	<4.0	< 1.0	NT	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5,000	50,000	< 2500	<2500	<2500	< 100	<1000	< 250	NT	< 25	< 25	< 25	<250	<250	<250	<250	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25 K-	< 50
Ethylbenzene			20,000	5,000	< 10	<10	<10	14	120	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	< 50	<50	<50	< 20	<20	< 5.0	NT	< 5.0 J+	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropyl benzene			NS	NS	< 20	<20	<20	< 2.0	<8.0	< 2.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS	< 20	<20	<20	< 2.0	<8.0	< 2.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	11.3	< 5.0	< 5.0
Methyl tert-butyl ether			50,000	50,000	< 20	<20	<20	2.5	<8.0	< 2.0	NT	75.8	240	0.26 J	<2.0	<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	1.2	< 1.0	< 1.0	0.92 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-
Methylene chloride			2,000	50,000	< 20	<20	<20	< 4.0	<8.0	<2.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20,000	< 20	<20	<20	< 4.0	<8.0	< 2.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene			NS	NS	< 20	<20	<20	< 2.0	<8.0	< 2.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene			100	6,000	< 10	<10	5200	370	290	11	NT	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS	< 20	<20	<20	< 1.0	<8.0	< 2.0	NT	4.6	17.7	< 2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 10	<10	<10	< 2.0	<4.0	< 1.0	NT	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30,000	1300	840	210	42	90	33	5.1	19.6	25.8	18.0	4.8	9 K+	13	8.5	17.2	14.6	21.8	55.6	48.5	39.4	37.5	53.5	52.6	61.8	84.9	86.5	20.6	37.0
Tetrahydrofuran			NS	NS	< 20	<20	<20	< 4.0	<8.0	< 2.0	NT	< 10	< 10	< 10	<2.0	<2.0	<2.0	<2.0	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			50,000	40,000	< 10	<10	<10	< 4.0	<10	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	< 10	<10	<10	< 2.0	<4.0	< 1.0	9.8	36.3	32.9	7.3	3.9	2.7	1.9	2.6	12.5	4.4	4.2	35.2	18.9	7.1	8.0	15.7	6.6	14.3 J+	16.8	18.6	2.8	5.2
1,1,2-Trichloroethane			900	50,000	< 10	<10	<10	< 2.0	<4.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5,000	150	100	<50	8.7	15	5.7	4.5	7.2	8.2	6.4	2.1	2.5	3.2	2.4	2.2	1.5	1.6	6.9	8.6	5.3	5.6	11.8 J+	7.2	9.8	12.9	8.2	1.5	2.5
1,2,4-Trimethylbenzene			NS	NS	< 20	<20	<20	<2.0	<8.0	< 2.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl chloride			2	50,000	< 10	<10	<10	22	7.7	2.2	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			3,000	5,000	< 20	<20	<20	< 4.0	<8.0	< 2.0	NT	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3,000	5,000	< 10	<10	<10	< 2.0	<4.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3,000	5,000	< 10	<10	<10	< 2.0	<4.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																										
Iron	6010B		NS	NS																										
Manganese	6010B/6010D		NS	NS																										
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																										
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																										
Ethane	8015	µg/l	NS	NS																										
Ethylene	8015	µg/l	NS	NS																										
Alkalinity	E310.1/2320B	µg/l*	NS	NS																										
Chloride	E325.3/9251	µg/l	NS	NS																										
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																										
Iron, Ferrous	3500FE B	µg/l	NS	NS																										
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																										
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																										
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																										
Sodium	6010C	µg/l	NS	NS																										
Sulfate	E375.4/9038	µg/l	NS	NS																										
Sulfide	E376.1	µg/l	NS	NS																										
Surfactants	E425.1/5540C	µg/l	NS	NS																										
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																										

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW202 (cont.)														MW203		MW203R				MW-3							
Sample Location:					MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW203	MW203	MW203R	MW203R	MW203R	MW203R	MW-3	MW-3	MW-3	MW-3	MW3	MW3	MW-3	MW-3
Sample Name:					MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW203	MW203	MW203R	MW203R	MW203R	MW203R	MW-3	MW-3	MW-3	MW-3	MW3	MW3	MW-3	MW-3
Well Screen Interval (ft bgs):					10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	6 to 18	6 to 18	13 to 23	13 to 23	13 to 23	13 to 23	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Sample Date:					5/1/14	4/2/15	4/29/16	4/17/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	4/18/23	4/3/24	4/23/25	11/12/25	2/3/26	7/19/07	4/15/08	4/4/24	4/2/25	11/10/25	2/3/26	7/1/02	8/9/04	5/23/06	1/17/07	4/17/07	4/15/08	7/15/08	10/21/08
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	SHA	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																												
Volatile Organic Compounds (VOCs)	8260	µg/l																														
Acetone			50000	50000	< 10	< 10	9.7	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	NT	< 250	<250	<250	<250	<250	< 2500	< 2000	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0
Benzene			1000	10000	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	NT	< 25	<25	<25	<25	<25	< 250	< 100	0.37 J	0.71	< 13	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	<5.00	<50	<50	<50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	< 250	<250	<250 K-	<250	<250	< 2500	< 1000	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 250	<100	<100	<100	<100	< 2500	< 5.0	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5,000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 50	<5.00	<50	<50	<50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1,000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	<5.00	<50	<50	<50	< 250	< 100	< 1.0	0.52 J	< 25	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 100	<100	<100	<100	<100	< 5.0	< 200	< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0
Chloroform			50	20,000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	<5.00	<50	<50	<50	< 380	< 100	2.1	3.4	< 25	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 100	<100	<100 K-	<100	<100	< 1200	< 200	< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	<5.00	<50	<50	<50	< 1200	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2,000	20,000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	22.2	13.0 J	<5.00	<50	<50	<50	< 380	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			5	20,000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 50	<5.00	<50	<50	<50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30,000	0.93 J	0.92 J	< 1.0	0.46 J	1.1	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	76.4	36.6 J	<5.00	<50	<50	<50	< 250	< 100	6.9	5.6	< 25	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			20	50,000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	102	78.9	<5.00	<50	<50	<50	< 250	< 100	< 1.0	1.9	< 25	< 1.0	0.56 J	< 1.0
trans-1,2-Dichloroethylene			90	50,000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	< 50	<5.00	<50	<50	<50	< 380	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50,000	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 100	<5.00	<50	<50	<50	< 880	< 100	< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5,000	50,000	< 50	<25	<25	<130	<130	<130	<250	<250	<250	<250	<250	<250	<50	<50	NT	< 1300	<12000	<12000	<12000	<12000	NT	NT	< 25	< 25	< 630	< 25	< 25	< 25
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	<50	<50	<50	<50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	< 250	<250	<250 K-	<250	<250	< 2500	< 1000	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0
Isopropyl benzene			NS	NS	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 250	<100	<100	<100	<100	< 250	< 100	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 250	<100	<100	<100	<100	< 250	< 100	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50,000	50,000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 50	<100	<100	<100	<100	< 5.0	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0
Methylene chloride			2,000	50,000	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 100	<100	<100	<100	<100	< 2500	< 1000	< 2.0	< 2.0	71.5	< 2.0	< 2.0	< 2.0
Naphthalene			700	20,000	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 250	<100	<100	<100	<100	< 1200	< 100	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0
n-Propylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 250	<100	<100	<100	<100	< 250	< 100	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0
Styrene			100	6,000	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 250	<50	<50	<50	<50	< 250	< 100	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 100	<100	<100	<100	<100	NT	NT	< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50,000	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 250	<50	<50	<50	<50	< 250	< 100	1.9 J	4.4 J	< 130	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30,000	31.4	28.1	40.8 K+	20.0	39.4	68.9	20.0	14.0	5.4	12.0	9.4	13	24	20	15500	11500	7500	5700	5000	5500	16000	16200	22100	51900	6550	400	427	606
Tetrahydrofuran			NS	NS	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 50	<100	<100 K-	<100	<100	NT	NT	< 10	< 10	< 250	< 10	< 10	< 10
Toluene			50,000	40,000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	<50	<50	<50	<50	< 380	< 100	0.62 J	< 1.0	< 25	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	6.9	7.4	7.1	3.5	8.1	9.8	2.7	1.7	<1.0	1.2	1.4	1.5	3.8	2.6	1710	988	<50	<50	<50	<50	< 250	< 100	39.1	68.7	11.1 J	< 1.0	0.43 J	< 1.0
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.66 J	< 50	<50	<50	<50	<50	< 380	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5,000	1.5	1.4	1.5	0.81 J	1.5	2.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	979	618	120	110	120	87	< 250	< 100	86.6	247	13.8 J	1.9	3.5	4.2
1,2,4-Trimethylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 250	<100	<100	<100	<100	< 1200	< 100	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0
Vinyl chloride			2	50,000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 50	<50	<50	<50	<50	< 5.0	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0
m,p-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 50	<100	<100	<100	<100	< 250	< 200	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	<50	<50	<50	<50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	<50	<50	<50	<50	ND	ND	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																												
Iron	6010B		NS	NS																												
Manganese	6010B/6010D		NS	NS																												
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																												
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																												
Ethane	8015	µg/l	NS	NS																												
Ethylene	8015	µg/l	NS	NS																												
Alkalinity	E310.1/2320B	µg/l*	NS	NS																												
Chloride	E325.3/9251	µg/l	NS	NS																												
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																												
Iron, Ferrous	3500FE B	µg/l	NS	NS																												
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																												
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																												
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																												
Sodium	6010C	µg/l	NS	NS																												
Sulfate	E375.4/9038	µg/l	NS	NS																												
Sulfide	E376.1	µg/l	NS	NS																												
Surfactants	E425.1/5540C	µg/l	NS	NS																												
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																												

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW-3 (cont.)				MW301			MW401D		MW401S		MW402		MW403		MW404				MW405		MW406		MW407		MW- CS1	SH-1	SH-3	SH-4
Sample Location:					MW-3	MW-3	MW-3	MW-3	MW-301	MW-301	MW-301	MW401D	MW401D	MW401S	MW401S	MW402	MW402	MW403	MW403	MW404	MW404	MW404	MW404	MW405	MW405	MW406	MW406	MW407	MW407	MW-CS1	SH-1	SH-3	SH-4
Sample Name:					MW-3	MW-3	MW-3	MW-3	MW-301	MW-301	MW-301	MW-401D	MW-401D	MW401S	MW401S	MW402	MW402	MW403	MW403	MW404	MW902	MW404	MW902	MW405	MW405	MW406	MW406	MW-407	MW407	MW-CS1	SH-1	SH-3	SH-4
Well Screen Interval (ft bgs):					Unknown	Unknown	Unknown	Unknown	5-15	5-15	5-15	34-44	34-44	4 to 16	4 to 16	20-30	20-30	80-90	80-90	72.4-82.5	72.5-82.5	72.4-82.5	72.5-82.5	8-18	8-18	4-14	4-14	4.45-14.45	4.5-14.5	Unknown	9 to 14	8 to 13	11 to 16
Sample Date:					1/14/09	4/14/09	7/15/09	10/16/09	1/20/25	4/23/25	11/11/25	11/13/25	2/4/26	11/13/2025	2/4/2026	11/11/25	2/3/26	11/11/25	2/3/26	11/12/25	11/12/25	2/5/26	2/5/26	11/10/25	2/2/26	11/10/25	2/2/26	1/7/26	2/4/26	5/23/07	8/9/04	8/9/04	5/25/06
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	Geolnsight	Geolnsight	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																												
Volatile Organic Compounds (VOCs)	8260	µg/l																														
Acetone			50000	50000	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<10	<1000	<100	<50	<5.0	<10	32	<10	<100	< 4000	< 4000	<1200	<1200	<10	<10	14	<5.0	12	<5.0	< 5.0	< 4000	< 2000	30.0
Benzene			1000	10000	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.5	<0.5	<100	<10	<5.0	<0.50	<0.5	<0.5	<0.5	<10	< 200	< 200	<120	<120	<0.5	0.62	<0.5	<0.5	1.1	<0.5	< 0.50	< 200	< 100	< 0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	< 1.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0 J+	< 5.0	< 5.0	<5.0	<5.0	<5.0	<1000	<100	<50	<5.0	<5.0	<5.0	<5.0	<40	< 2000	< 2000	<1200	<1200	<5.0	<5.0	<5.0	<5.0	< 10	<5.0	< 5.0	< 2000	< 1000	< 5.0
Carbon disulfide			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<500	<500	<20	<2.0	<2.0	<2.0	<2.0	<40	< 1000	< 1000	<500	<500	<2.0	<2.0	<2.0	<2.0	< 5.0	<2.0	0.54 J	< 1000	< 5.0	< 5.0
Carbon tetrachloride			2	5,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	< 1.0
Chlorobenzene			200	1,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	< 1.0
Chloroethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<200	<40	<20	<2.0	<2.0	<2.0	<2.0	<40	< 400	< 400	<500	<500	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0	< 2.0	< 400	< 200	< 2.0
Chloroform			50	20,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<200	<40	<10	<10	<1.0	<1.0	<1.0	<20	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	2.2	< 2.0	<1.0	< 1.0	< 200	< 100	13.3
Chloromethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<200	<40	<20	<2.0	<2.0	<2.0	<2.0	<40	< 400	< 400	<500	<500	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0	< 2.0	< 400	< 200	< 2.0
1,4-Dichlorobenzene			60	8,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	< 1.0
1,1-Dichloroethane			2,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	500	130	7.8	1.9	5.6	4	48	<20	< 200	< 200	260	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	15.9
1,2-Dichloroethane			5	20,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	103
1,1-Dichloroethylene			80	30,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	28	<10	<1.0	3.2	2.3	<10	<10	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	< 1.0	< 200	< 100	556 E
cis-1,2-Dichloroethylene			20	50,000	< 1.0	< 1.0	0.43 J	2.3 J+	<1.0	<1.0	<1.0	400	120	14	8.7	<1.0	<1.0	13	<20	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	16.6
trans-1,2-Dichloroethylene			90	50,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	< 1.0
1,2-Dichloropropane			3	50,000	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 2.0	< 200	< 100	< 2.0
1,4-Dioxane			5,000	50,000	< 25	< 25	< 25	< 25	<250	<50	<50	<5000 K-	<5000	<2500 K-	<250	<50	<50	<50	<5000	<200	<200	<62000	<62000 F-	<50	<50	<50	<50	< 50	<50	< 25	NT	NT	57700
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<1.0	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	< 1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<1000	<100	<50	<5.0	<5.0	<5.0	<5.0	<40	< 2000	< 2000	<1200	<1200	<5.0	<5.0	<5.0	<5.0	< 10	<5.0	< 5.0	< 2000	< 1000	5.3
Isopropyl benzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<100	<20	<20	<2.0	<2.0	<2.0	<2.0	<40	< 200	< 200	<500	<500	2.3	<2.0	<2.0	<2.0	< 1.0	<2.0	< 5.0	< 200	< 100	< 5.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<100	<20	<20	<2.0	<2.0	<2.0	<2.0	<40	< 200	< 200	<500	<500	<2.0	<2.0	<2.0	<2.0	< 1.0	<2.0	< 5.0	< 200	< 100	< 5.0
Methyl tert-butyl ether			50,000	50,000	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<100	<20	<20	<2.0	<2.0	<2.0	<2.0	<40	< 200	< 200	<500	<500	<2.0	<2.0	<2.0	<2.0	< 1.0	<2.0	66.4	< 200	< 100	< 1.0
Methylene chloride			2,000	50,000	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<500	<40	<20	<2.0	<2.0	<2.0	<2.0	<40	< 2000	< 2000	<500	<500	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0	< 2.0	< 2000	< 1000	12.2
Naphthalene			700	20,000	< 5.0	< 5.0	< 5.0 J+	< 5.0	<2.0	<2.0	<2.0	<200	<40	<20	<2.0	<2.0	<2.0	<2.0	<40	< 200	< 200	<500	<500	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0	< 5.0	< 200	< 5.0	< 5.0
n-Propylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<100	<20	<20	<2.0	<2.0	<2.0	<2.0	<40	< 200	< 200	<500	<500	3.4	<2.0	<2.0	<2.0	< 1.0	<2.0	< 5.0	< 200	< 100	< 5.0
Styrene			100	6,000	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<1.0	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 5.0	< 200	< 100	< 5.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0 J+	<2.0	<2.0	<2.0	<50	<50	<20	<2.0	<2.0	<2.0	<2.0	<40	<200	<200	<200	<200	<2.0	<2.0	<2.0	<2.0	< 0.50	<2.0	< 2.0	NT	NT	1.9 J
1,1,1,2-Tetrachloroethane			10	50,000	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 5.0	< 200	< 100	40.4
Tetrachloroethylene (PCE)			20	30,000	176	141	280	391	<1.0	<1.0	<1.0	12000 K+	2300	440 K+	76	290	140	710	1400	44000	45000	26000	25000	<1.0	<1.0	1	<1.0	40	38	< 1.0	49700	19500	7240
Tetrahydrofuran			NS	NS	< 10	< 10	< 10	< 10	<2.0	2	<2.0	<200	<40	<20	<2.0	<2.0	<2.0	<2.0	<40	<200	<200	<500	<200	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0	< 10	NT	NT	< 10
Toluene			50,000	40,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	1.8
1,1,1-Trichloroethane (TCA)			4,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	<200	<200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	1150	2070	7610
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	172
Trichloroethylene (TCE)			5	5,000	1.3	1.3	2.7	3.6	<1.0	<1.0	<1.0	2600	470	66	14	36	17	120	140	2600	2700	1300	1300	<1.0	<1.0	<1.0	<1.0	4.1	3.5	< 1.0	906	1440	7580
1,2,4-Trimethylbenzene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<100	<20	<20	<2.0	<2.0	<2.0	<2.0	<40	< 200	< 200	<500	<500	<2.0	<2.0	<2.0	<2.0	< 1.0	<2.0	< 5.0	< 200	< 100	< 5.0
Vinyl chloride			2	50,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<200	<40	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 2.0	<1.0	< 1.0	< 200	< 100	< 1.0
m,p-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<200	<40	<20	<2.0	<2.0	<2.0	<2.0	<40	< 400	< 400	<500	<500	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0	< 1.0	< 400	< 200	< 1.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	< 1.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<200	<40	<10	<1.0	<1.0	<1.0	<1.0	<20	<200	<200	<250	<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	ND	ND	< 1.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																												
Iron	6010B		NS	NS																												
Manganese	6010B/6010D		NS	NS																												
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																												
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT
Methane	8015	µg/l	NS	NS																									NT			
Ethane	8015	µg/l	NS	NS																									NT			
Ethylene	8015	µg/l	NS	NS																									NT			
Alkalinity	E310.1/2320B	µg/l*	NS	NS																									NT			
Chloride	E325.3/9251	µg/l	NS	NS																									275000			
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																									< 50			
Iron, Ferrous	3500FE B	µg/l	NS	NS																									NT			
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																									NT			
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																									NT			
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																									NT			
Sodium	6010C	µg/l	NS	NS																									NT			
Sulfate	E375.4/9038	µg/l	NS	NS																									NT			
Sulfide	E376.1	µg/l	NS	NS																									NT			
Surfactants	E425.1/5540C	µg/l	NS	NS																									NT			
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																									NT			

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

					SH-MW1					SH-MW2									SH-MW2R				SH-MW3									
					SH-MW1	SH-MW-1	SH-MW-1	SH-MW1	SHMW1	SH-MW2	SH-MW2	SH-MW-2	SH-MW-2	SH-MW2	SHMW2	SH-MW2	SH-MW2	SH-MW2	SH-MW2	SH-MW2R	SH-MW2R	SH-MW2R	SHMW-2R	SH-MW3	SH-MW-3	SH-MW-3	SH-MW3	SHMW3	SHMW3	SHMW3	SHMW3	SHMW3	SHMW3
					SH-MW1	SH-MW-1	SH-MW-1	SH-MW1	SHMW1	SH-MW2	SH-MW2	SH-MW-2	SH-MW-2	SH-MW2	SHMW2	SH-MW2	SH-MW2	SH-MW2	SH-MW2	SH-MW2R	SH-MW2R	SH-MW2R	SHMW-2R	SH-MW3	SH-MW-3	SH-MW-3	SH-MW3	SHMW3	SHMW3	SHMW3	SHMW3	SHMW3	SHMW3
					10 to 30	10 to 30	10 to 30	10 to 30	10 to 30	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 23	10 to 23	10 to 23	10 to 23	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24
					7/8/02	5/23/06	10/4/06	1/16/07	4/12/07	7/8/02	8/16/04	10/4/05	5/23/05	1/16/07	10/4/06	4/16/07	7/19/07	4/28/17	4/4/18	4/3/24	4/24/25	11/12/25	2/6/26	7/8/02	5/23/06	10/4/06	1/17/07	4/12/07	4/15/08	4/13/10	4/21/11	4/16/12	4/23/13	4/30/14	4/2/15
					SHA	GEI	GEI	GEI	GEI	SHA	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	SHA	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**																													
Volatile Organic Compounds (VOCs)	8260	µg/l																															
Acetone			50000	50000	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 2000	< 5.0	< 5.0	< 5.0	< 10	NT	<10	<10	<10	<100	<200	<200	<250	< 2500	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 500	< 10	< 500
Benzene			1000	10000	< 250	< 0.50	0.61	< 0.50	0.33 J	< 25	< 100	< 0.50	< 0.50	< 0.50	< 1.0	NT	<0.50	<0.50	<0.50	<10	<20	<25	<25	< 250	< 0.50	< 0.50	< 50	< 0.50	< 500	< 0.50	< 50	< 25	< 25	< 0.50	< 25
Bromodichloromethane			6	50000	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<20	<40	<40	<50	< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50
2-Butanone (MEK)			50000	50000	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 1000	< 5.0	< 5.0	< 5.0	< 10	NT	<10	<10	<10	<100	<200 K-	<200	<250	< 2500	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250
Carbon disulfide			NS	NS	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 10	NT	<2.0	<2.0	<2.0	<40	<80	<80	<100	< 2500	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250
Carbon tetrachloride			2	5,000	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<20	<40	<40	<50	< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50
Chlorobenzene			200	1,000	< 250	< 1.0	0.52 J	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<20	<40	<40	<50	< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50
Chloroethane			NS	NS	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 200	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	<1.0	<1.0	<1.0	<40	<80	<80	<100	< 5.0	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100
Chloroform			50	20,000	< 380	2.1	4.6	1.7	3.4	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<20	<40	<40	<50	< 380	0.88 J	0.81 J	< 100	1.1	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50
Chloromethane			NS	NS	< 1200	< 2.0	< 2.0	< 2.0	< 2.0	< 120	< 200	< 2.0	< 2.0	< 2.0	< 4.0	NT	<1.0	<1.0	<1.0	<40	<80 K-	<80	<100	< 1200	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100
1,4-Dichlorobenzene			60	8,000	< 1200	< 1.0	< 1.0	< 1.0	< 1.0	< 120	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<20	<40	<40	<50	< 1200	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50
1,1-Dichloroethane			2,000	20,000	< 380	11.4	12.0	8.5	12.7	< 38	< 100	1.0	20.9	5.7	< 2.0	12.4	<1.0	<1.0	<1.0	<20	<40	<40	<50	< 380	21.6	36.5	< 100	24.5	< 100	19.5	< 100	< 50	< 50	12.6	24.0 J
1,2-Dichloroethane			5	20,000	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<20	<40	<40	<50	< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50
1,1-Dichloroethylene			80	30,000	< 250	11.7	19.3	9.0	24.4	< 25	< 100	10.1	45.0	9.8	2.1	23.8	0.65 J	<1.0	<1.0	<20	<40	<40	<50	< 250	91.0	84.4	< 100	91.3	< 100	14.2	< 100	< 50	< 50	12.5	<50
cis-1,2-Dichloroethylene			20	50,000	< 250	2.1	7.3	11.2	2.7	< 25	< 100	3.9	45.7	14.7	1.4 J	26.1	1.7	2.3	3.1	<20	<40	30	<50	< 250	37.2	102	< 100	39.8	34.5 J	19.8	< 100	< 50	< 50	40.1	27.7 J
trans-1,2-Dichloroethylene			90	50,000	< 380	< 1.0	< 1.0	< 1.0	< 1.0	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<20	<40	<40	<50	< 380	< 1.0	1.1	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50
1,2-Dichloropropane			3	50,000	< 880	< 2.0	< 2.0	< 2.0	< 2.0	< 88	< 100	< 2.0	< 2.0	< 2.0	< 4.0	NT	<1.0	<1.0	<1.0	<20	<40	<40	<50	< 880	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100
1,4-Dioxane			5,000	50,000	NT	< 25	< 25 R	< 25	< 25	NT	NT	< 25	< 25 R	< 25	< 5.0	NT	<130	<130	<130	<5000	<10000	<10000	<12000	NT	< 25	< 25 R	< 2500	< 25	< 2500	< 25	< 2500	< 1300	< 2600	< 25 K-	<1300
Ethylbenzene			20,000	5,000	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<20	<40	<40	<50	< 250	< 1.0	< 1.0	180	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50
2-Hexanone			NS	NS	NT	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 1000	< 5.0	< 5.0	< 5.0	< 10	NT	<5.0	<5.0	<5.0	<100	<200 K-	<200	<250	NT	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250
Isopropyl benzene			NS	NS	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 100	< 5.0	< 5.0	< 5.0	< 10	NT	< 1.0	< 1.0	< 1.0	<40	<80	<80	<100	< 250	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250
4-Isopropyltoluene			NS	NS	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 100	< 5.0	< 5.0	< 5.0	< 10	NT	<2.0	<2.0	<2.0	<40	<80	<80	<100	< 250	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250
Methyl tert-butyl ether			50,000	50,000	< 5.0	< 1.0	0.71 J J+	< 1.0	0.74 J J+	< 5.0	< 100	< 1.0	8.7 J+	1.4	< 2.0	NT	<1.0	<1.0	<1.0	<40	<80	<80	<100	< 5.0	5.1	8.2 J+	< 100	2.4 J+	< 100	0.83 J	< 100	< 50	< 50 K-	< 1.0	< 50
Methylene chloride			2,000	50,000	< 2500	< 2.0	< 2.0	< 2.0	< 2.0	< 250	< 1000	< 2.0	< 2.0	< 2.0	2.3 J	NT	<2.0	<2.0	<2.0	<40	<80	<80	<100	< 2500	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	450	< 100	< 100	< 2.0	< 100
Naphthalene			700	20,000	< 1200	< 5.0	< 5.0	< 5.0	< 5.0	< 120	< 100	< 5.0	< 5.0	< 5.0	< 10	NT	<5.0	<5.0	<5.0	<40	<80	<80	<100	< 1200	< 5.0	< 5.0	392 J	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250
n-Propylbenzene			NS	NS	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 100	< 5.0	< 5.0	< 5.0	< 10	NT	< 2.0	< 2.0	< 2.0	<40	<80	<80	<100	< 250	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250
Styrene			100	6,000	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 100	< 5.0	< 5.0	< 5.0	< 10	NT	< 1.0	< 1.0	< 1.0	<20	<40	<40	<50	< 250	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250
Tert-amyl methyl ether			NS	NS	NT	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 4.0	NT	<2.0	<2.0	<2.0	<40	<80	<80	<100	NT	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100
1,1,1,2-Tetrachloroethane			10	50,000	< 250	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 25	< 100	< 5.0	< 5.0	< 5.0 F+	< 10	NT	<1.0	<1.0	<1.0	<20	<40	<40	<50	< 250	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	<50
Tetrachloroethylene (PCE)			20	30,000	21000	16200	28300	31700 F+	48900	2000	7170	1730	7190	2880 F+	726	3320	365	459	439	2500	3800	3400	3900	26000	16900	28300	29700	34000	15200	20300	16900	7310	9650	14500	12800
Tetrahydrofuran			NS	NS	NT	< 10	< 10	< 10	< 10	NT	NT	< 10	< 10	< 10	< 20	NT	<10	<10	<10	<40	<80 K-	<80	<100	NT	< 10	< 10	< 1000	< 10	< 1000	< 10	< 1000	< 500	< 500	< 10 G	< 500
Toluene			50,000	40,000	< 380	0.61 J	0.47 J	< 1.0	0.36 J	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<20	<40	<40	<50	< 380	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50
1,1,1-Trichloroethane (TCA)			4,000	20,000	< 250	34.5	69.7 J+	31.4	27.9 J+	660	1550	158	1330	360	44.1	539	6.8	7.9	14.8	<20	<40	<40	<50	1200	989	1680	806	621 E J+	119	19.8 J	< 100	83.0	< 50	48.0	49.9 J
1,1,2-Trichloroethane			900	50,000	< 380	< 1.0	< 1.0	< 1.0	< 1.0	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<20	<40	<40	<50	< 380	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50
Trichloroethylene (TCE)			5	5,000	< 5.0	141	317	141	159	190	572	92.8	486	171	26.5	354	13.2	14.8	16.7	42	56	60	53	870	482	1030	709	1030	306	383.0	342	152	157	231	218
1,2,4-Trimethylbenzene			NS	NS	< 1200	< 5.0	< 5.0	< 5.0	< 5.0	< 120	< 100	< 5.0	< 5.0	< 5.0	< 10	NT	< 2.0	< 2.0	< 2.0	<40	<80	<80	<100	< 1200	< 5.0	< 5.0	306 J	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250
Vinyl chloride			2	50,000	< 5.0	< 1.0	< 1.0	< 1.0	0.55 J	< 5.0	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<20	<40	<40	<50	< 5.0	< 1.0	< 1.0	< 100	0.83 J	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50
m,p-Xylene			3,000	5,000	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 200	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<40	<80	<80	<100	< 250	< 1.0	< 1.0	484	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50
o-Xylene			3,000	5,000	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<20	<40	<40	<50	< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50
Total Xylene			3,000	5,000	ND	< 1.0	< 1.0	< 1.0	< 1.0	ND	ND	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<20	<40	<40	<50	ND	< 1.0	< 1.0	543	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900															NT								< 10								
Iron	6010B		NS	NS															NT								255								
Manganese	6010B/6010D		NS	NS															<15								NT								
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																															
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS															0.21								< 10								
Ethane	8015	µg/l	NS	NS															<0.23								< 10								
Ethylene	8015	µg/l	NS	NS															<0.31								< 10								
Alkalinity	E310.1/2320B	µg/l*	NS	NS															143000								208000								
Chloride	E325.3/9251	µg/l	NS	NS															38600								362000								
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS															<100								NT								
Iron, Ferrous	3500FE B	µg/l	NS	NS															<200								NT								
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS															2600								1900								
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS															2600								1900								
Nitrogen, Nitrite	E354.1	µg/l	NS	NS															<10								30								
Sodium	6010C	µg/l	NS	NS															NT								NT								
Sulfate	E375.4/9038	µg/l	NS	NS															62900								62600								
Sulfide	E376.1	µg/l	NS	NS															<2000								< 2000								
Surfactants	E425.1/5540C	µg/l	NS	NS															<100								< 100								
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS															1900								< 1000								

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW-2 Standard	Method 1 GW-3 Standard	Sample Location: KE-114 / Sample Name: KE-114 5 to 30 9/27/12 Kleinfelder	KE-114 / KE-114 5 to 30 2/6/14 Kleinfelder	Sample Location: KE-115 / Sample Name: KE-115 5 to 30 9/27/12 Kleinfelder	KE-115 / KE-115 5 to 30 2/6/14 Kleinfelder	Sample Location: KE-116 / Sample Name: KE-116 5 to 30 9/27/12 Kleinfelder	KE-116 / KE-116 5 to 30 2/6/14 Kleinfelder	Sample Location: KE-117 / Sample Name: KE-117 5 to 20 9/27/12 Kleinfelder	KE-117 / KE-117 5 to 20 2/6/14 Kleinfelder	KE-117 / KE-117 5 to 20 4/9/14 Kleinfelder	Sample Location: MW-5R / Sample Name: MW-5R 5 to 30 2/6/14 Kleinfelder	Sample Location: WashSW(b) / Sample Name: WashSW[(c)] Vac-Ex 2/6/14 Kleinfelder	KE-202D / KE-202D ~25 to 35 4/8/14 Kleinfelder	KE-202S / KE-202S 5 to 20 4/8/14 Kleinfelder	KE-204 / KE-204 15 to 25 4/14/14 Kleinfelder	KE-205 / KE-205 9.5 to 19.5 4/15/14 Kleinfelder	KE-206 / KE-206 10 to 21 4/14/14 Kleinfelder	KE-207 / KE-207 8 to 18 4/15/14 Kleinfelder	KE-208 / KE-208 4 to 14 4/14/14 Kleinfelder	KE209 / KE209 9 to 19 4/15/14 Kleinfelder	KE-210 / KE-210 8.5 to 18.5 4/15/14 Kleinfelder
Volatile Organic Compounds (VOCs)	8260	µg/l																						
Acetone			50000	50000	< 10	< 10	< 10	< 10	< 10	< 10	56	< 10	< 20	< 10	< 10	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene			1000	10000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	3.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane			6	50000	NT	< 1.0	NT	< 1.0	NT	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000	NT	< 10	NT	< 10	NT	< 10	< 100	< 10	< 50	< 10	< 10	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Carbon disulfide			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	73	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5,000	NT	< 1.0	NT	< 1.0	NT	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1,000	NT	< 1.0	NT	< 1.0	NT	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS	NT	< 2.0	NT	< 2.0	NT	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20,000	NT	< 5.0	NT	< 5.0	NT	< 5.0	< 10	< 5.0	< 2.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloromethane			NS	NS	NT	< 2.0	NT	< 2.0	NT	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8,000	NT	< 1.0	NT	< 1.0	NT	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	12	< 1.0	< 1.0	4.4	< 1.0	< 1.0	3.4	< 1.0	6	< 1.0	< 1.0	< 1.0	1000
1,2-Dichloroethane			5	20,000	NT	< 1.0	NT	< 1.0	NT	< 1.0	< 5.0	< 1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethylene			80	30,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	8	< 1.0	< 1.0	1.8	< 1.0	< 5.0	2.6	< 1.0	4.6	< 1.0	< 1.0	< 1.0	790
cis-1,2-Dichloroethylene			20	50,000	< 1.0	< 1.0	1.8	1	< 1.0	< 1.0	< 5.0	410	2.8	< 1.0	26	12	< 1.0	83	< 1.0	89	< 1.0	1.2	< 1.0	8.4
trans-1,2-Dichloroethylene			90	50,000	NT	< 1.0	NT	< 1.0	NT	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50,000	NT	< 1.0	NT	< 1.0	NT	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dioxane			5,000	50,000	NT	< 50	NT	< 50	NT	< 50	< 250	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Ethylbenzene			20,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	7.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	NT	< 10	NT	< 10	NT	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Isopropyl benzene			NS	NS	NT	< 1.0	NT	< 1.0	NT	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene			NS	NS	NT	< 1.0	NT	< 1.0	NT	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			50,000	50,000	< 1.0	< 1.0	1.4	2.4	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	71
Methylene chloride			2,000	50,000	NT	< 5.0	NT	< 5.0	NT	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene			700	20,000	NT	< 2.0	NT	< 2.0	NT	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
n-Propylbenzene			NS	NS	NT	< 1.0	NT	< 1.0	NT	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene			100	6,000	NT	< 1.0	NT	< 1.0	NT	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-amyl methyl ether			NS	NS	NT	< 0.50	NT	< 0.50	NT	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,1,2-Tetrachloroethane			10	50,000	NT	< 1.0	NT	< 1.0	NT	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethylene (PCE)			20	30,000	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	760	4.3	< 1.0	2000	33	< 1.0	14000	1	12000	2.5	73	< 1.0	14000
Tetrahydrofuran			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	3.3	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Toluene			50,000	40,000	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	2.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4,000	20,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	11	< 1.0	< 1.0	13	< 1.0	< 1.0	16	< 1.0	35	< 1.0	< 1.0	< 1.0	860
1,1,2-Trichloroethane			900	50,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.8
Trichloroethylene (TCE)			5	5,000	< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 5.0	150	1.2	< 1.0	38	5	< 1.0	81	< 1.0	86	< 1.0	2	< 1.0	24000
1,2,4-Trimethylbenzene			NS	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			2	50,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	19	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	3.6
m,p-Xylene			3,000	5,000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	37	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
o-Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 2.0	< 1.0	19	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Xylene			3,000	5,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 2.0	< 1.0	56	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	6010B		NS	900																				
Iron	6010B		NS	NS																				
Manganese	6010B/6010D		NS	NS																				
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron			NS	NS																				
Others					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	NS	NS																				
Ethane	8015	µg/l	NS	NS																				
Ethylene	8015	µg/l	NS	NS																				
Alkalinity	E310.1/2320B	µg/l*	NS	NS																				
Chloride	E325.3/9251	µg/l	NS	NS																				
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS																				
Iron, Ferrous	3500FE B	µg/l	NS	NS																				
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS																				
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS																				
Nitrogen, Nitrite	E354.1	µg/l	NS	NS																				
Sodium	6010C	µg/l	NS	NS																				
Sulfate	E375.4/9038	µg/l	NS	NS																				
Sulfide	E376.1	µg/l	NS	NS																				
Surfactants	E425.1/5540C	µg/l	NS	NS																				
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS																				

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. "<" = The analyte was not detected at a concentration greater than the specified laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective March 1, 2024.
4. Reportable Concentrations (e.g., RCS-2), Method 1 Standards (e.g., S-2/GW-3) and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
5. ft bgs = feet below ground surface.
6. µg/l = micrograms per liter.
7. mg/L = milligrams per liter.
8. "< " = The analyte was not detected at a concentration above the specified reporting.
9. SHA = Sanborn Head & Associates.
10. FD = Field Duplicate Sample.
11. NT = The sample was not tested for this analyte.
12. NS = No standard or criteria has been established for this analyte.
13. * = micrograms CaCO3 per liter
14. Prior to November 2025, all groundwater samples from MW122 were collected via grab sampling methods.

Qualifying Notes:

A The result is estimated due to exceedence of holding time criteria.
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 7-5. Chemical Testing Results - Groundwater Sampling
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

					Sample Location:	**GLC-Wash-MW-2**	**GLC-Wash-MW-4**	**WSPH-MW-12**	**WSPH-MW-12**	**WSPH-MW-13**	**WSPH-MW-13**	**COBBLE-IR-1**
					Sample Location:	**GLC-Wash-MW-2**	**GLC-Wash-MW-4**	**WSPH-MW-12**	**WSPH-MW-12**	**WSPH-MW-13**	**WSPH-MW-13**	**COBBLE-IR-1**
					Sample Name:	**GLC-Wash-MW-2**	**GLC-Wash-MW-4**	**MW-12**	**WSPH-MW-12**	**MW-13**	**WSPH-MW-13**	**COBBLE-IR-1**
					Well Screen Interval (ft bgs):	**20-30**	**20-30**	**9-18**	**9-18**	**9-18**	**9-18**	**Unknown**
					Sample Date:	**8/25/20**	**8/25/20**	**10/26/22**	**2/7/23**	**10/26/22**	**2/7/23**	**6/25/07**
					Collected By:	**TRC**	**TRC**	**TRC**	**TRC**	**TRC**	**TRC**	**GEI**
Analyte	**Method**	**Units**	**Method 1 GW-2 Standard**	**Method 1 GW-3 Standard**								
Volatile Organic Compounds (VOCs)	8260	µg/l										
Acetone			50000	50000	NT	NT	<5	<5	<5	<5	5.8	
Benzene			1000	10000	NT	NT	<0.5	<0.5	<0.5	<0.5	< 0.50	
Bromodichloromethane			6	50000	NT	NT	<1	<1	<1	<1	0.32 J	
2-Butanone (MEK)			50000	50000	NT	NT	<5	<5	<5	<5	< 5.0	
Carbon disulfide			NS	NS	NT	NT	<2	<2	<2	<2	< 5.0	
Carbon tetrachloride			2	5,000	NT	NT	<1	<1	<1	<1	< 1.0	
Chlorobenzene			200	1,000	NT	NT	<1	<1	<1	<1	< 1.0	
Chloroethane			NS	NS	NT	NT	<2	<2	<2	<2	< 2.0	
Chloroform			50	20,000	NT	NT	1.4	<1	<1	<1	5.6	
Chloromethane			NS	NS	NT	NT	<2	<2	<2	<2	< 2.0	
1,4-Dichlorobenzene			60	8,000	NT	NT	<1	<1	<1	<1	< 1.0	
1,1-Dichloroethane			2,000	20,000	NT	NT	<1	<1	1.0	<1	< 1.0	
1,2-Dichloroethane			5	20,000	NT	NT	<1	<1	<1	<1	< 1.0	
1,1-Dichloroethylene			80	30,000	NT	NT	<1	<1	<1	<1	< 1.0	
cis-1,2-Dichloroethylene			20	50,000	< 1.0	< 1.0	<1	<1	3.6	1.2	< 1.0	
trans-1,2-Dichloroethylene			90	50,000	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	
1,2-Dichloropropane			3	50,000	NT	NT	<1	<1	<1	<1	< 2.0	
1,4-Dioxane			5,000	50,000	NT	NT	<250	<250	<250	<250	< 25	
Ethylbenzene			20,000	5,000	NT	NT	<1	<1	<1	<1	< 1.0	
2-Hexanone			NS	NS	NT	NT	<5	<5	<5	<5	< 5.0	
Isopropyl benzene			NS	NS	NT	NT	<2	<2	<2	<2	< 5.0	
4-Isopropyltoluene			NS	NS	NT	NT	<2	<2	<2	<2	< 5.0	
Methyl tert-butyl ether			50,000	50,000	NT	NT	<2	<2	<2	<2	< 1.0	
Methylene chloride			2,000	50,000	NT	NT	<2	<2	<2	<2	< 2.0	
Naphthalene			700	20,000	NT	NT	<2	<2	<2	<2	< 5.0	
n-Propylbenzene			NS	NS	NT	NT	<2	<2	<2	<2	< 5.0	
Styrene			100	6,000	NT	NT	<1	<1	<1	<1	< 5.0	
Tert-amyl methyl ether			NS	NS	NT	NT	<2	<2	<2	<2	< 2.0	
1,1,1,2-Tetrachloroethane			10	50,000	NT	NT	<1	<1	<1	<1	< 5.0	
Tetrachloroethylene (PCE)			20	30,000	< 1.0	11	<1	<1	1.2	3.1	< 1.0	
Tetrahydrofuran			NS	NS	NT	NT	<2	<2	<2	<2	< 10	
Toluene			50,000	40,000	NT	NT	<1	<1	<1	<1	< 1.0	
1,1,1-Trichloroethane (TCA)			4,000	20,000	NT	NT	<1	<1	<1	<1	< 1.0	
1,1,2-Trichloroethane			900	50,000	NT	NT	<1	<1	<1	<1	< 1.0	
Trichloroethylene (TCE)			5	5,000	< 1.0	1.6	<1	<1	1.2	<1	< 1.0	
1,2,4-Trimethylbenzene			NS	NS	NT	NT	<2	<2	<2	<2	< 5.0	
Vinyl chloride			2	50,000	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	
m,p-Xylene			3,000	5,000	NT	NT	<2	<2	<2	<2	< 1.0	
o-Xylene			3,000	5,000	NT	NT	<1	<1	<1	<1	< 1.0	
Total Xylene			3,000	5,000	NT	NT	<1	<1	<1	<1	< 1.0	
Total Petroleum Hydrocarbons (TPH)		mg/L			NT	NT	NT	NT	NT	NT	NT	
Metals (Total)		µg/l			NT	NT	NT	NT	NT	NT	NT	
Arsenic	6010B		NS	900								
Iron	6010B		NS	NS								
Manganese	6010B/6010D		NS	NS								
Metals (Dissolved)	6010C	µg/l			NT	NT	NT	NT	NT	NT	NT	
Iron			NS	NS								
Others					NT	NT	NT	NT	NT	NT	NT	
Methane	8015	µg/l	NS	NS								
Ethane	8015	µg/l	NS	NS								
Ethylene	8015	µg/l	NS	NS								
Alkalinity	E310.1/2320B	µg/l*	NS	NS								
Chloride	E325.3/9251	µg/l	NS	NS								
Chlorine, Total Residual	E330.4/400CL-G	µg/l	NS	NS								
Iron, Ferrous	3500FE B	µg/l	NS	NS								
Nitrate & Nitrite as N	E353.2/4500NH3-H	µg/l	NS	NS								
Nitrogen, Nitrate	E353.2/4500NO3-F	µg/l	NS	NS								
Nitrogen, Nitrite	E354.1	µg/l	NS	NS								
Sodium	6010C	µg/l	NS	NS								
Sulfate	E375.4/9038	µg/l	NS	NS								
Sulfide	E376.1	µg/l	NS	NS								
Surfactants	E425.1/5540C	µg/l	NS	NS								
Total Organic Carbon	E415.1/9060A	µg/l	NS	NS								

General Notes:
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E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 9-1. Exposure Pathway Mitigation Measure (EPMM) Status
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Property Address		Date Completed or Last Modified	Date of Last Indoor Air Monitoring	AUL Recorded (Yes/No)
91-93 Franklin Street	Passive	March, 2009	12/19/2025	Yes
95 Franklin Street	Active	May, 2011	5/16/2013	No
95R Franklin Street	Passive	December, 2007	3/8/2010	Yes
150 Glen Street (Capuano Center)	Active	April, 2015	5/23/2015	No
163 Glen Street	Passive	July, 2018	8/18/2020	No
166-168 Glen Street	Passive	November, 2010	2/21/2025	Yes
9 Knowlton Street	Active	January, 2010	3/23/2023	Yes
13 Knowlton Street	Active	January, 2010	1/10/2023	Yes
17 Knowlton Street	Passive	March, 2009	3/6/2025	Yes
31-33 Knowlton Street	Active	February, 2008	3/19/2010	No
32 Knowlton Street	Passive	May, 2009	12/19/2025	Yes
34 Knowlton Street	Passive	June, 2014	12/19/2025	Yes
35-37 Knowlton Street	Active	April, 2010	3/11/2011	No
4 Morton Street	Passive	November, 2008	3/6/2026	No
10 Morton Street	Passive	September, 2024	3/18/2025	Yes
11 Morton Street	Passive	November, 2008	12/19/2025	Yes
12 Morton Street	Passive	March, 2008	11/19/2010	Yes
13 Morton Street	Active	October, 2008	9/17/2014	No
18 Morton Street	Active	July, 2007	2/24/2011	No
19-19A Morton Street	Passive	August, 2009	12/19/2025	Yes
23 Tufts Street	Active	May, 2007	2/25/2010	No
27 Tufts Street	Active	May, 2011	5/23/2013	No
31 Tufts Street	Passive	October, 2022	2/19/2025	No
50 Tufts Street	Active	August, 2007	3/11/2015	No
60 Tufts Street	Active	April, 2009	1/8/2026	No
121 Washington	Passive	December, 2024	Pending	No

General Notes:

1. NS = Not sampled.
2. - = Not Applicable.

Figures

Figure 1-1 Site Location Map

Figure 1-2 Site Plan

Figure 2-1 Monitoring Well Location Plan

Figure 2-2 Degradation Trend Graph (GEO-1 TCA)

Figure 2-3 Degradation Trend Graph (GEO-1 PCE)

Figure 2-4 Degradation Trend Graph (MW116 PCE)

Figure 2-5 Degradation Trend Graph (MW121D PCE)

Figure 2-6 PCE Plots (2008 and 2025 – 2026)

Figure 2-7 TCE Plots (2008 and 2025 – 2026)

Figure 2-8 TCA Plots (2008 and 2025 – 2026)

Figure 2-9 Molar Concentration Flow Path Assessment

Figure 3-1 MassGIS Map

Figure 3-2 Tufts Street Improvements Limit of Work (North)

Figure 3-3 Tufts Street Improvements Limit of Work (South)

Figure 5-1 WS-212 Vault Detail

Figure 6-1 NAFNON Indoor Air Sampling Progress

Figure 7-1 Monitoring Well Location Plan

Figure 7-2 Groundwater Sampling Plan

Figure 8-1 Aerial Photo with Regional Fill Areas and Cross-Section Locations

Figure 8-2 Generalized Regional Cross-Section A-A'

Figure 8-3 Generalized Regional Cross-Section B-B'

Figure 8-4 Cross-Section Location Plan

Figure 8-5 Subsurface Profile A-A'

Figure 8-6 Subsurface Profile B-B'

Figure 8-7 Subsurface Profile C-C'

Figure 8-8 Subsurface Profile D-D'

Figure 8-9 Subsurface Profile E-E'

Figure 8-10 Shallow Overburden Groundwater Contour Plan (November 2025)

Figure 8-11 Shallow Overburden Groundwater Contour Plan (February 2026)

Figure 8-12 Construction Dewatering Impacts to Shallow Overburden Groundwater Plume

Figure 9-1 Permanent Solution Status

Figure 9-2 EPMM Installation Progress

Figure 11-1 Degradation Trend Graph (GEO-1 PCE)

Figure 11-2 Degradation Trend Graph (GEO-1 TCA)

Figure 11-3 Degradation Trend Graph (MW116 PCE)

Figure 11-4 Degradation Trend Graph (MW121D PCE)

Figure 11-5 Spatiotemporal Snapshot of Plume Overlay (2026)

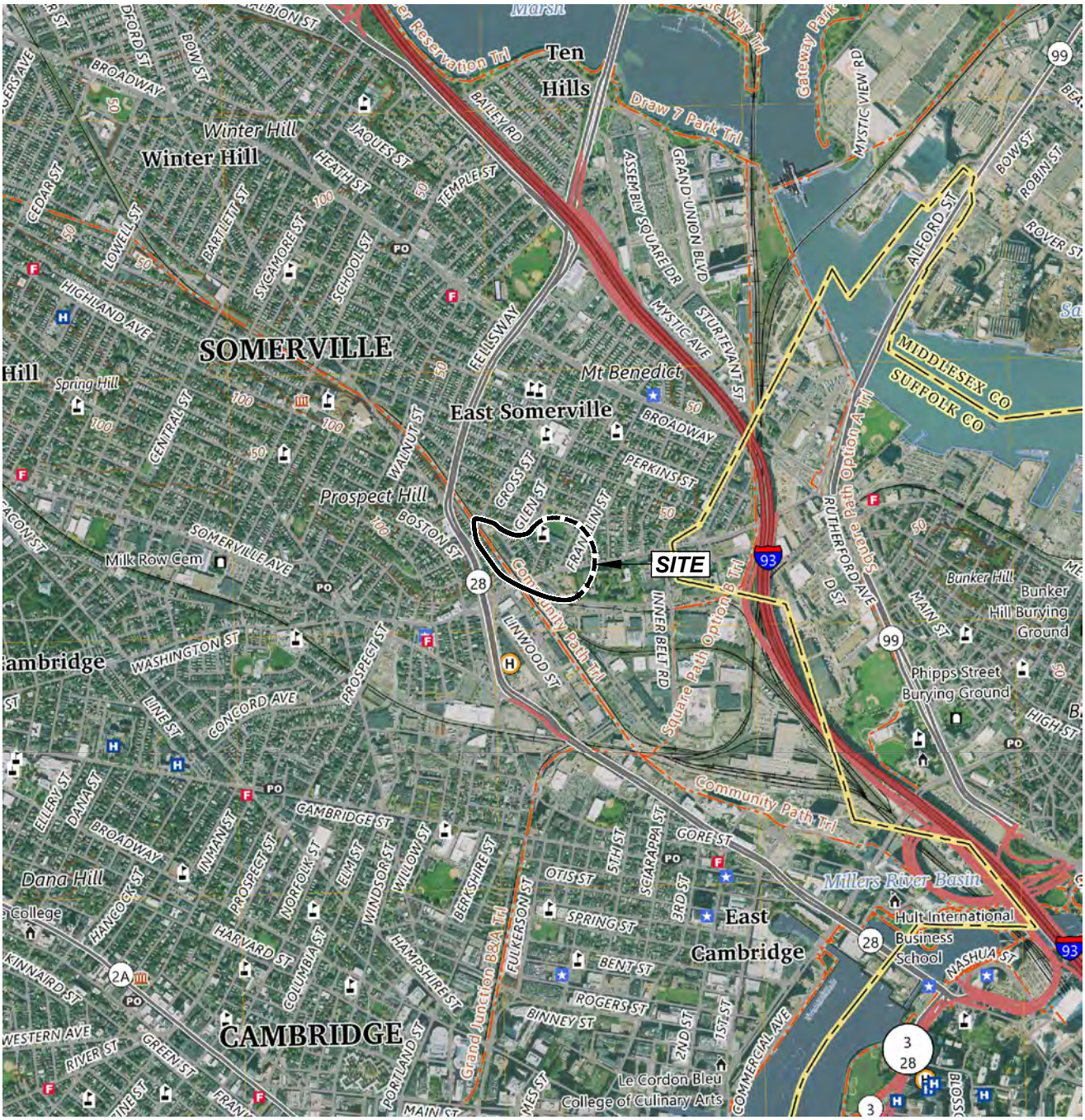
Figure 11-6 PCE Plots (2008 and 2025 – 2026)

Figure 11-7 TCE Plots (2008 and 2025 – 2026)

Figure 11-8 TCA Plots (2008 and 2025 – 2026)

Figure 11-9 Molar Concentration Flow Path Assessment

Figure 12-1 Original and Updated PCE Contour Plan



0 2000 4000

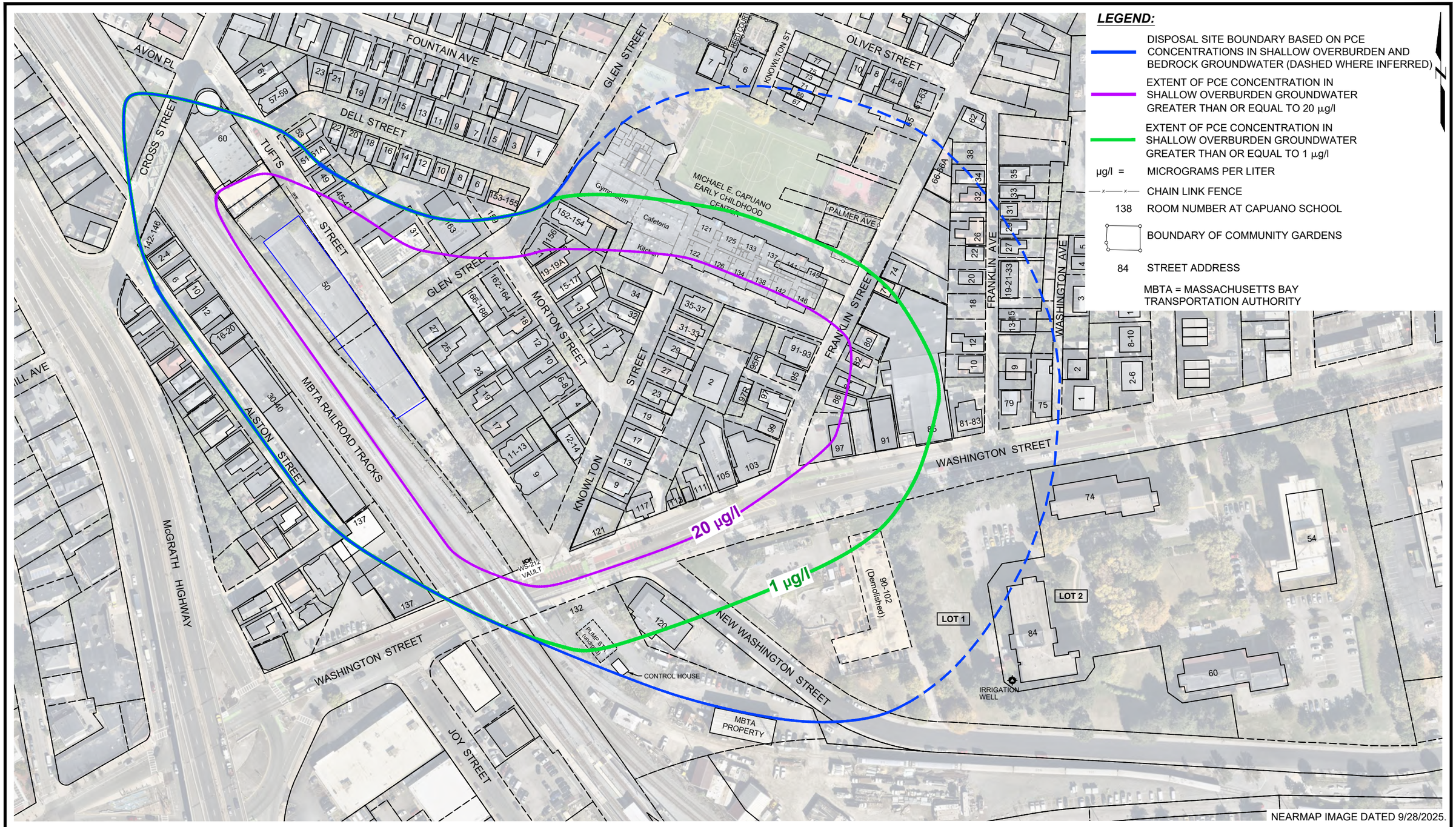
SCALE, FEET

QUADRANGLE LOCATION

This Image is from U.S.G.S. Topographic 7.5 Minute Series
Boston North, MA Quadrangle, 2024.
Datum is North American Vertical Datum of 1988 (NAVD88).
Contour Interval is 10 Feet.

Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	SITE LOCATION MAP
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 1-1

B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-01



NEARMAP IMAGE DATED 9/28/2025.

NOTES:

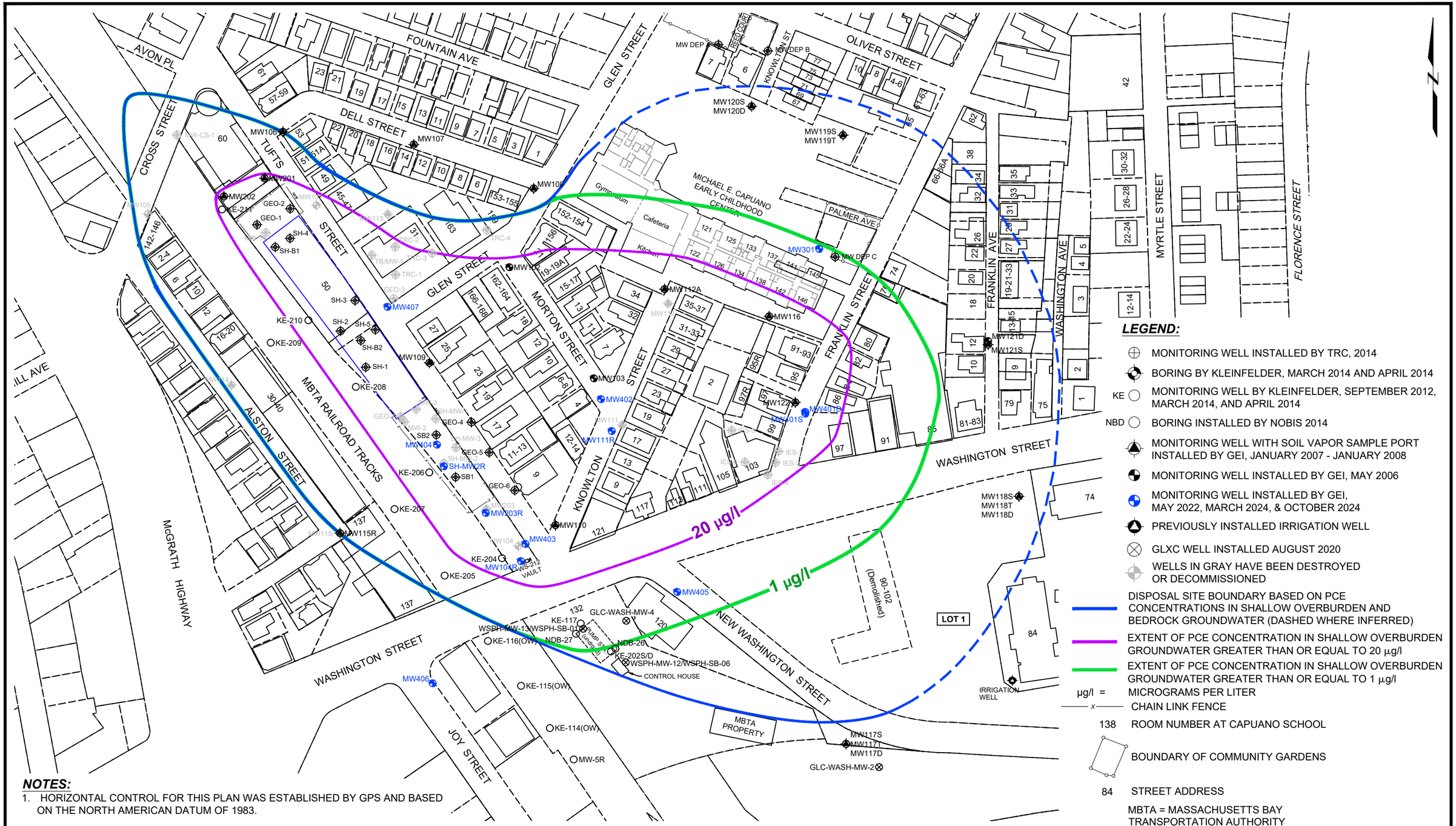
1. NEARMAP IMAGE DATED 9/28/2025.
2. STREET AND PARCEL BOUNDARIES FROM MASSGIS DATABASE.

0 150 300

SCALE, FEET

Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	SITE PLAN
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 1-2

CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-02.dwg - 6/12/2026



LEGEND:

- MONITORING WELL INSTALLED BY TRC, 2014
- BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- KE ○ MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- NBD ○ BORING INSTALLED BY NOBIS 2014
- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED BY GEI, MAY 2022, MARCH 2024, & OCTOBER 2024
- PREVIOUSLY INSTALLED IRRIGATION WELL
- GLXC WELL INSTALLED AUGUST 2020
- WELLS IN GRAY HAVE BEEN DESTROYED OR DECOMMISSIONED
- DISPOSAL SITE BOUNDARY BASED ON PCE CONCENTRATIONS IN SHALLOW OVERBURDEN AND BEDROCK GROUNDWATER (DASHED WHERE INFERRED)
- EXTENT OF PCE CONCENTRATION IN SHALLOW OVERBURDEN GROUNDWATER GREATER THAN OR EQUAL TO 20 µg/l
- EXTENT OF PCE CONCENTRATION IN SHALLOW OVERBURDEN GROUNDWATER GREATER THAN OR EQUAL TO 1 µg/l
- µg/l = MICROGRAMS PER LITER
- CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS

MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES FROM MASSGIS DATABASE.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC. OR INFORMATION PROVIDED BY KLEINFELDER.
4. GEI OBSERVED DECOMMISSIONING OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

0 150 300

SCALE, FEET

Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

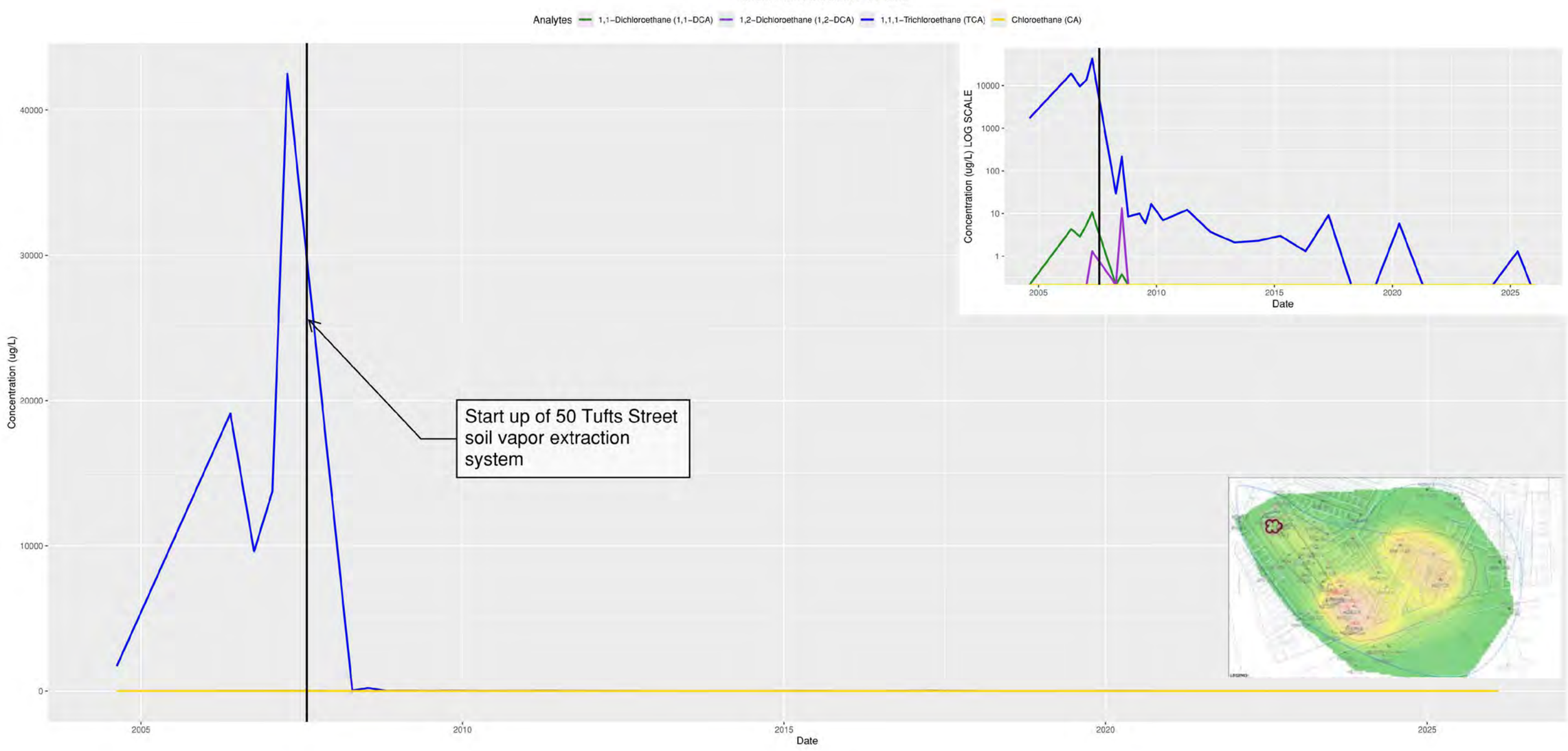
GEI Consultants

EXPLORATION LOCATION PLAN

Project 045163 | June 2026 | Fig. 2-1

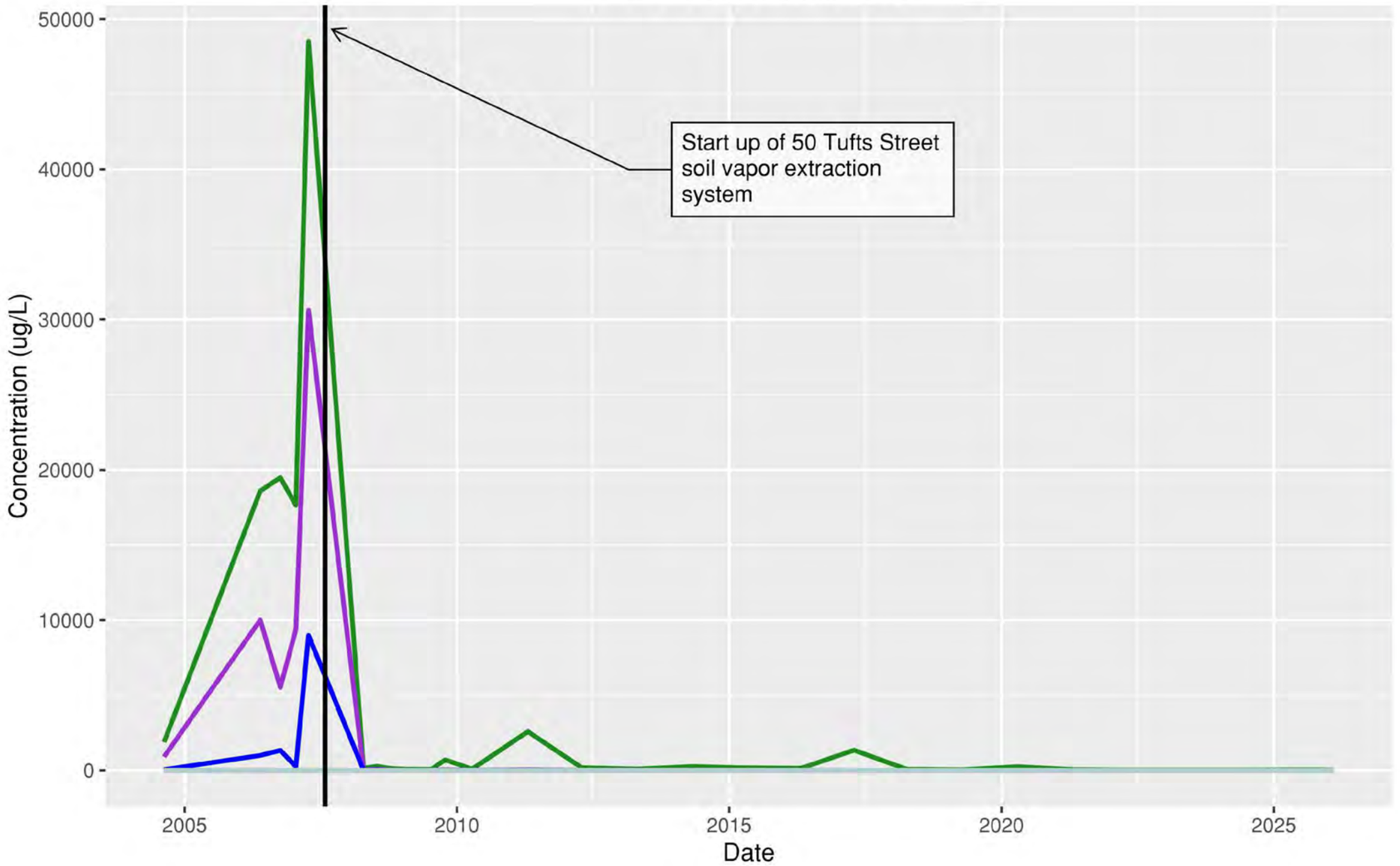
CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-02.dwg - 6/15/2026

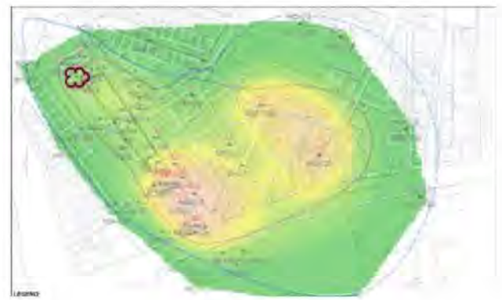
GEO–1 Chlorinated
Ethane Concentrations vs. Time



Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	GEO-1 TCA vs. TIME
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 2-2

CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-17.dwg - 6/15/2026

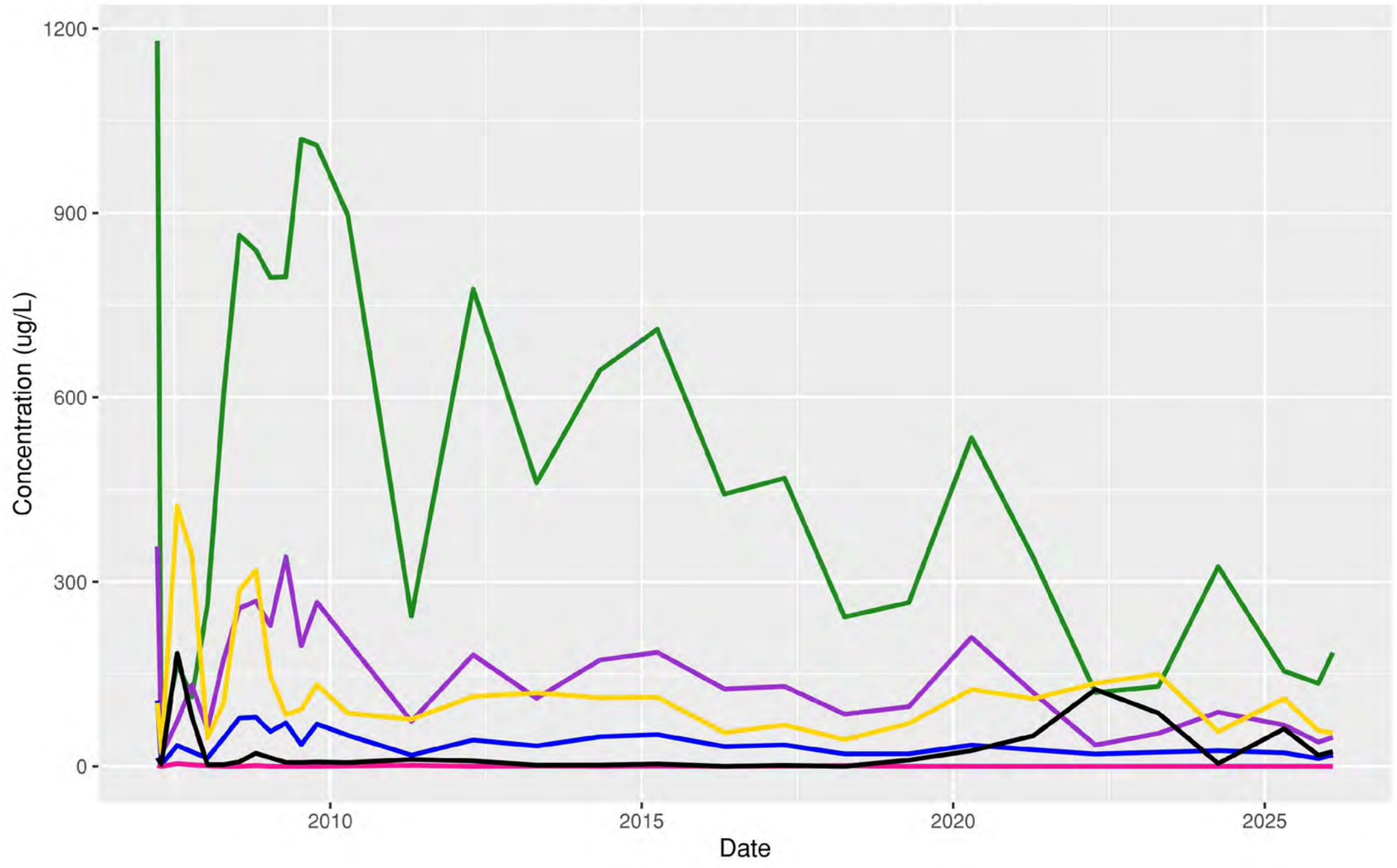




Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	GEO-1 PCE vs. TIME
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 2-3

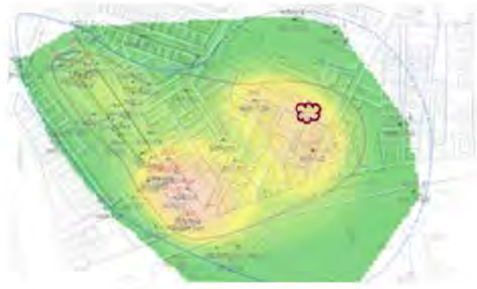
CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-17.dwg - 6/15/2026

MW–116 Chlorinated Ethene Concentrations vs. Time



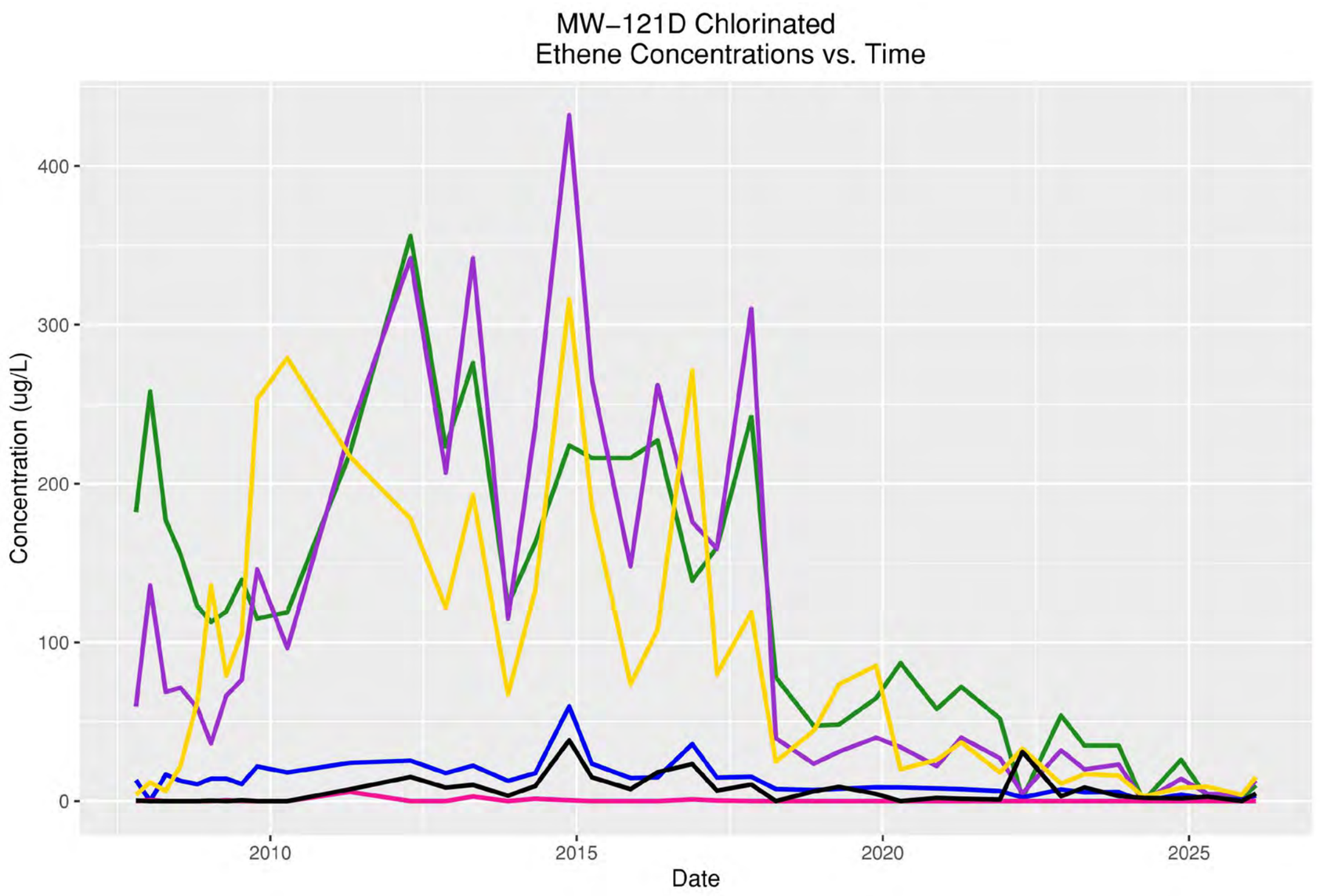
Analytes

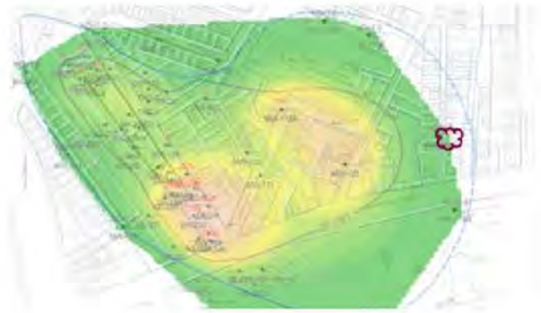
- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1–Dichloroethylene (1,1–DCE)
- cis–1,2–Dichloroethylene (cis–1,2–DCE)
- trans–1,2–Dichloroethylene (trans–1,2–DCE)
- Vinyl chloride (VC)



Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	MW-116 PCE vs. TIME
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 2-4

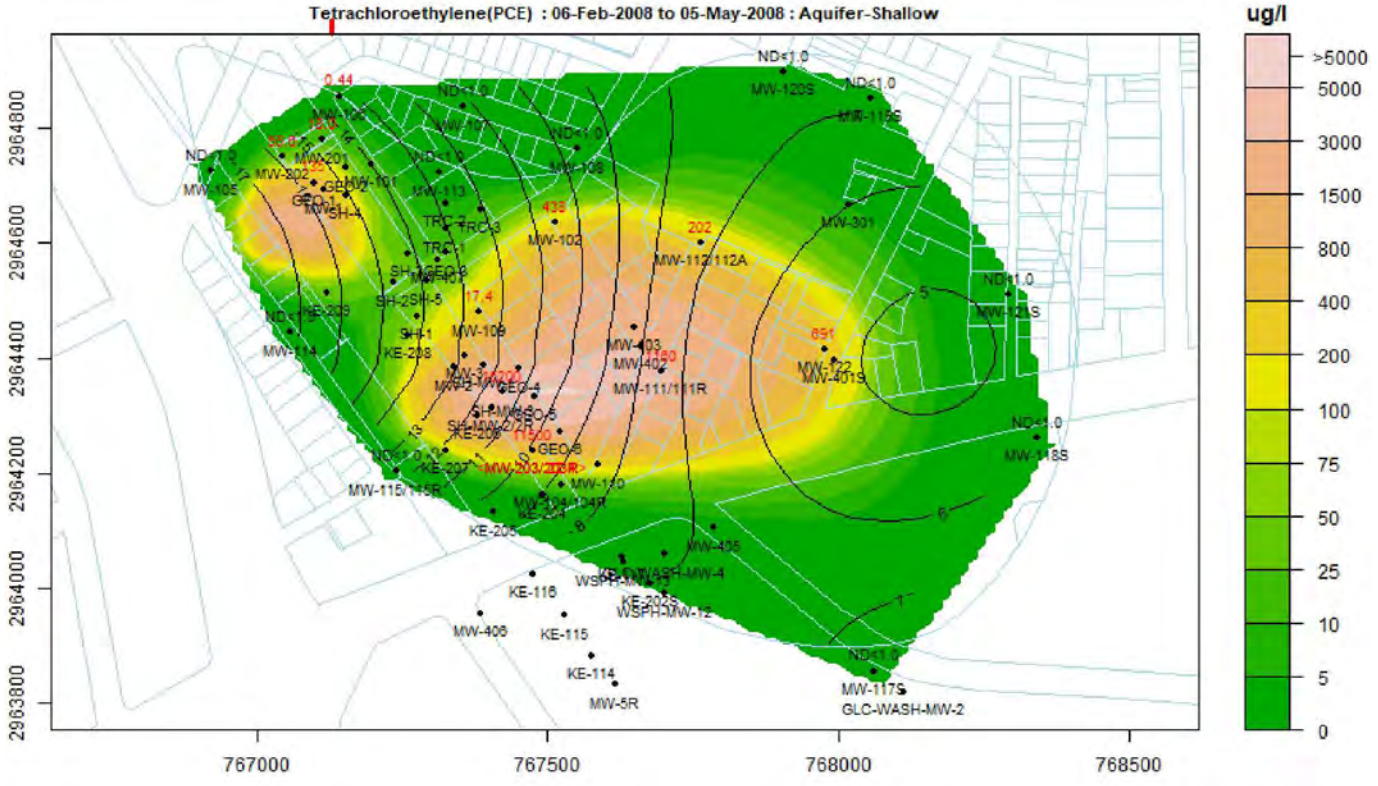
CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-17.dwg - 6/15/2026

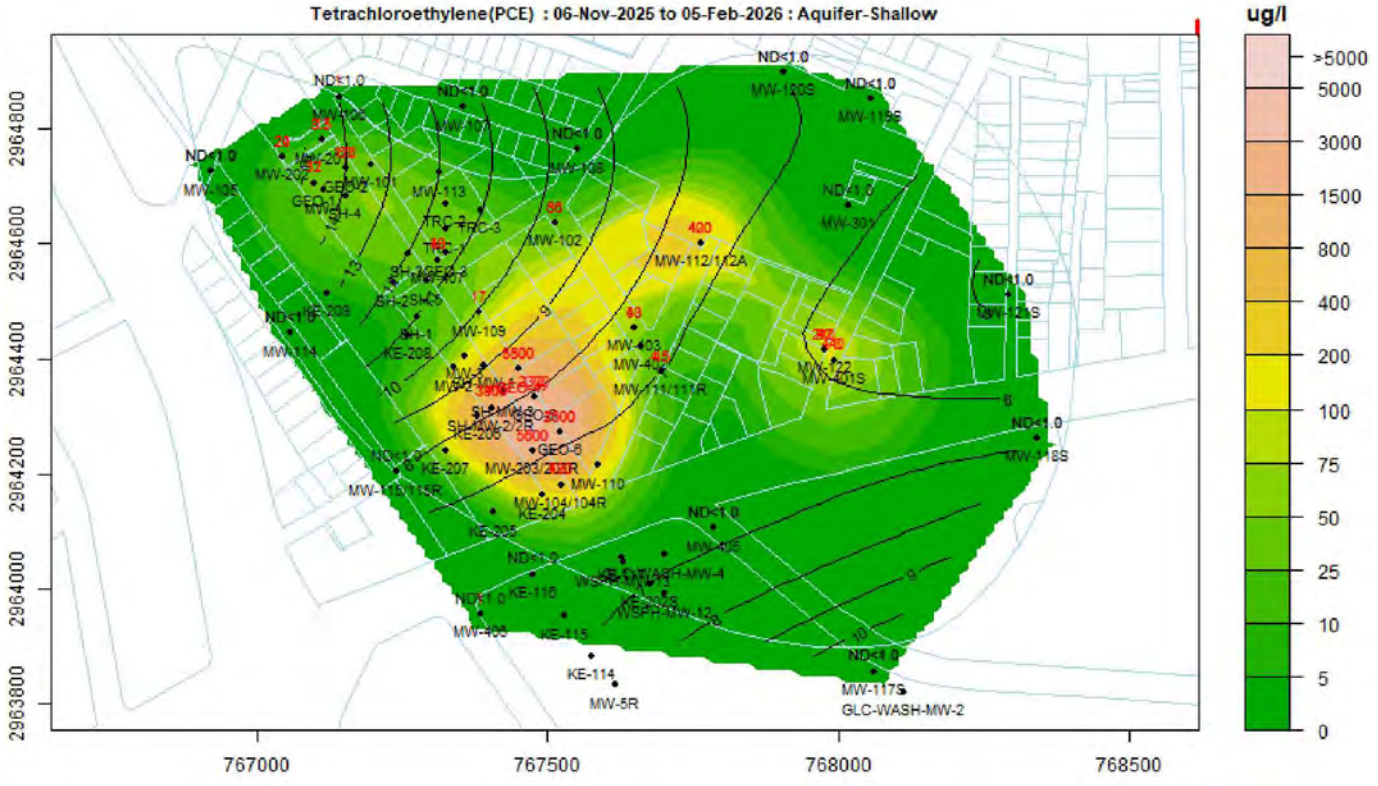




Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	MW-121D PCE vs. TIME
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 2-5

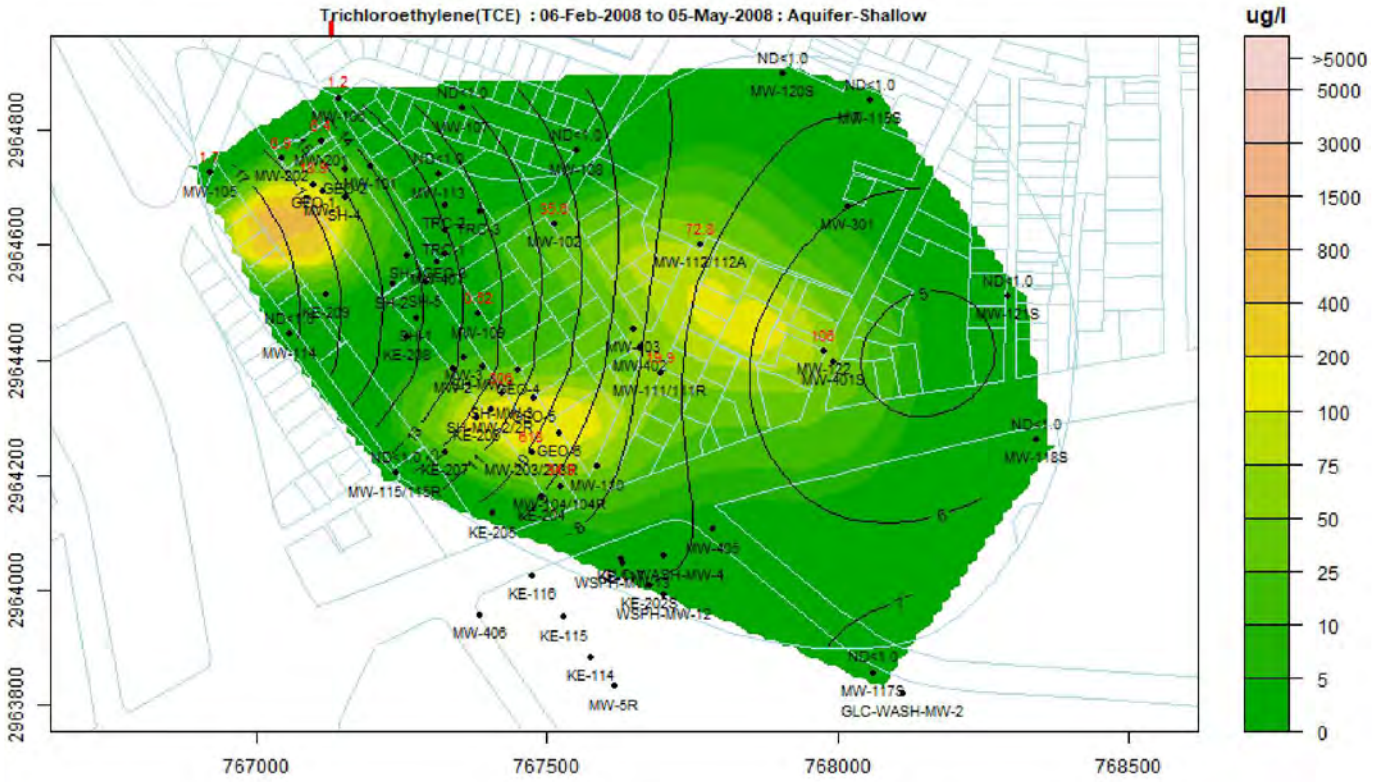
CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-17.dwg - 6/15/2026

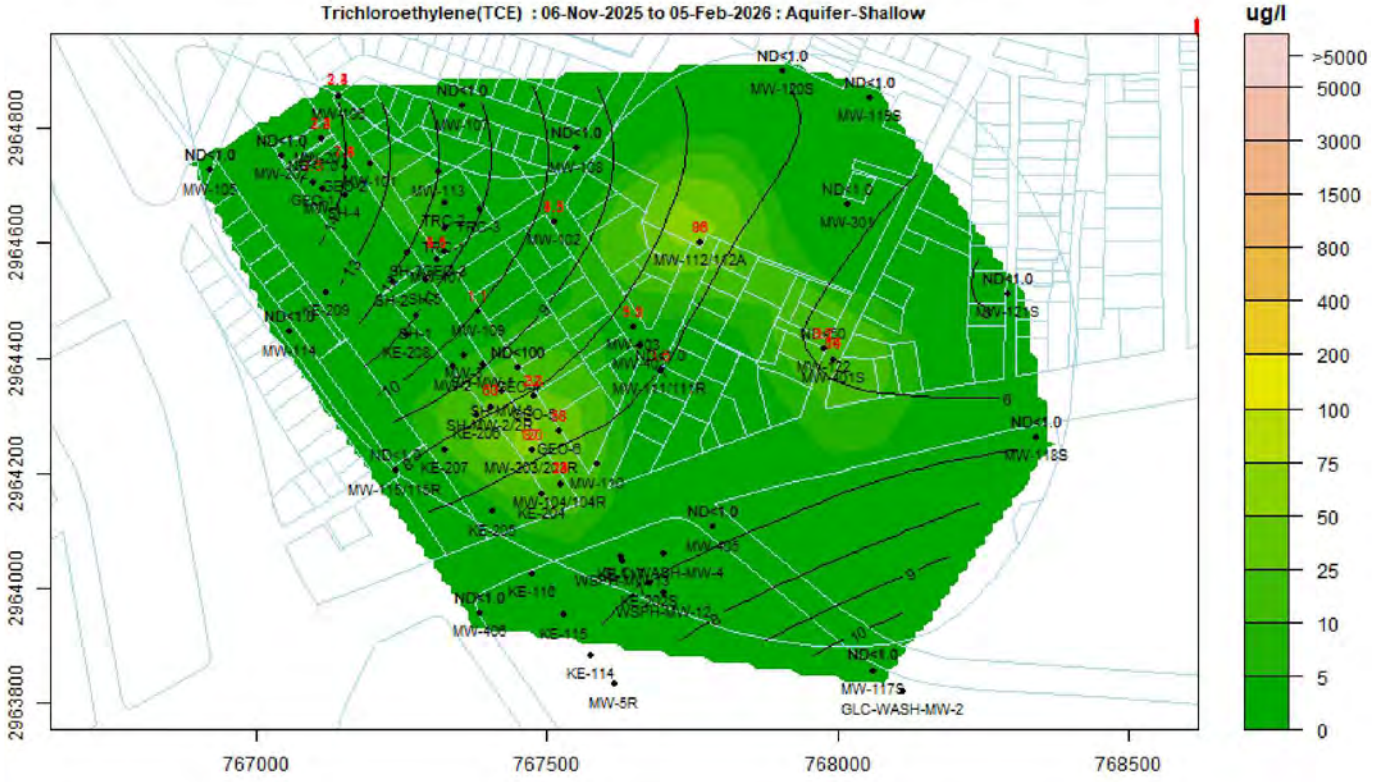




Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	PCE PLOTS 2008 and 2025-2026
UniFirst Corporation Wilmingron, Massachusetts	Project 045163	June 2026 Fig. 2-6

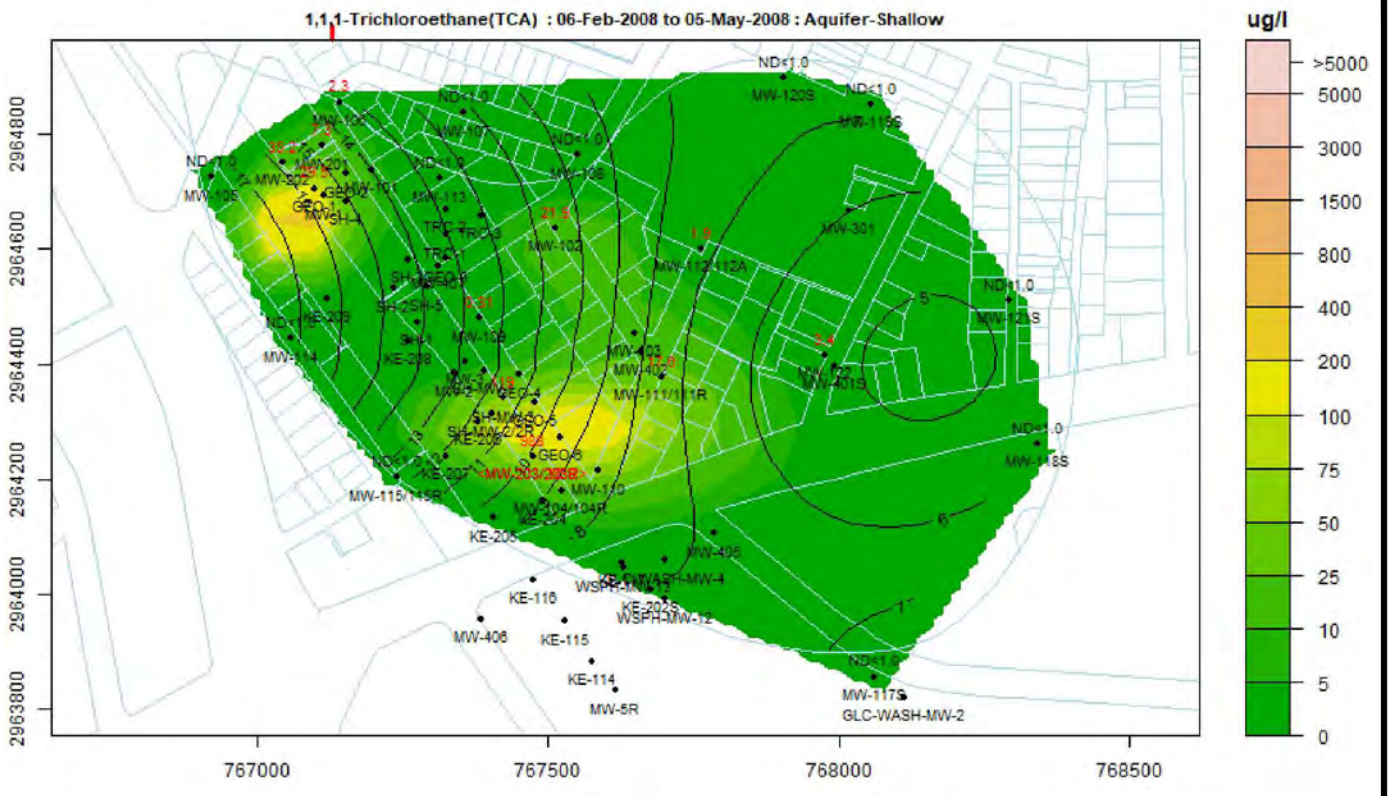
CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-12.dwg - 6/15/2026





Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	TCE PLOTS 2008 and 2025-2026
UniFirst Corporation Wilmingron, Massachusetts	Project 045163	June 2026 Fig. 2-7

CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-12.dwg - 6/15/2026


1,1,1-Trichloroethane(TCA) : 06-Feb-2008 to 05-May-2008 : Aquifer-Shallow
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
2964800
2964600
2964400
2964200
2964000
2963800
767000
767500
768000
768500
MW-120S
MW-119S
MW-301
MW-121S
MW-118S
MW-117S
GLC-WASH-MW-2
MW-5R
KE-116
KE-115
KE-114
MW-406
MW-405
KE-205
KE-207
KE-208
MW-115/115R
MW-114
MW-105
MW-107
MW-113
MW-108
MW-102
MW-112/112A
MW-403
MW-402
MW-111/111R
MW-401S
MW-130
MW-104/104R
MW-203/203R
GEO-5
GEO-4
GEO-3
GEO-2
GEO-1
MW-1
MW-2
MW-3
MW-4
SH-1
SH-2
SH-3
SH-4
SH-5
SH-6
SH-7
SH-8
SH-9
SH-10
SH-11
SH-12
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SH-15
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SH-26
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SH-28
SH-29
SH-30
SH-31
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SH-34
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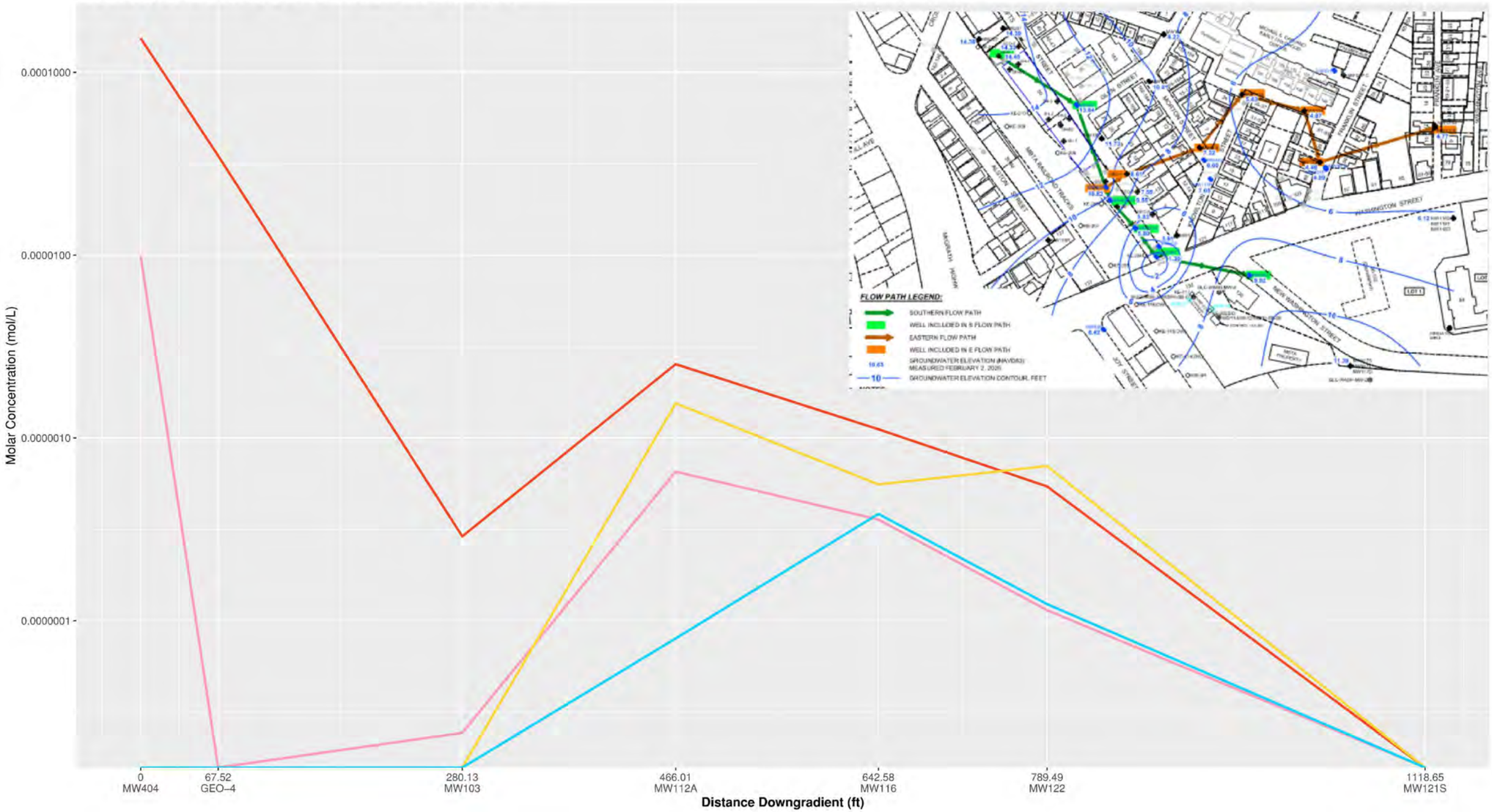
SH-37
SH-38
SH-39
SH-40

Molar Concentration Along an Eastern Flow Path – February 2026



Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	MOLAR PATH
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 2-9

CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-17.dwg - 6/15/2026

MassDEP - Bureau of Waste Site Cleanup

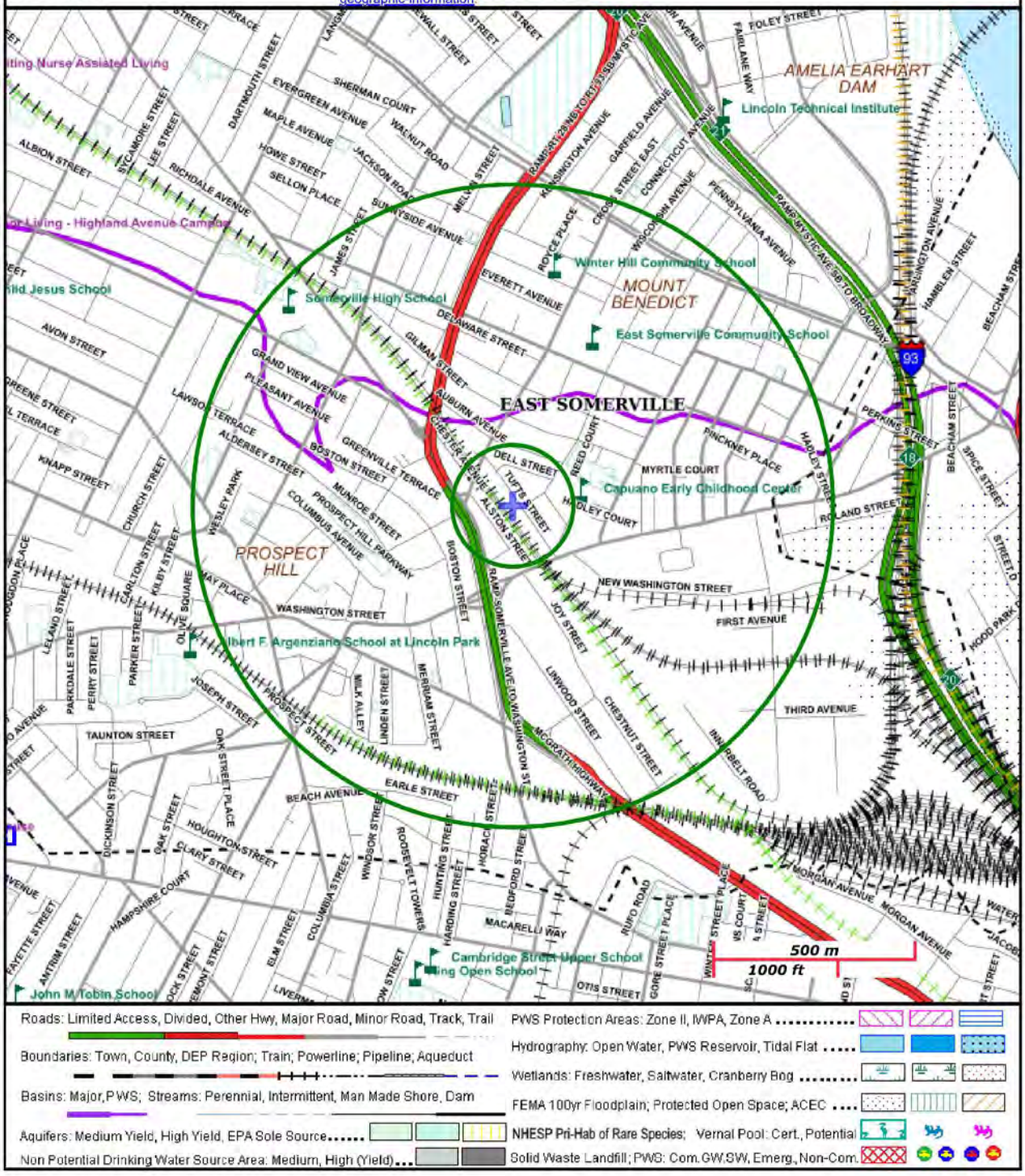
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
50 TUFTS STREET
50 TUFTS STREET SOMERVILLE, MA
3-000023246

NAD83 UTM Meters:
4694324mN , 328038mE (Zone: 19)
January 28, 2026

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: https://www.mass.gov/orgs/massgis-bureau-of-geographic-information

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection


AMELIA EARHART DAM
Lincoln Technical Institute
Winter Hill Community School
MOUNT BENEDICT
Somerville High School
East Somerville Community School
EAST SOMERVILLE
Capuano Early Childhood Center
PROSPECT HILL
Albert F. Argenziano School at Lincoln Park
John M Tobin School
Cambridge Street Upper School
500 m
1000 ft
Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major,PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam
Aquifers: Medium Yield, High Yield, EPA Sole Source
Non Potential Drinking Water Source Area: Medium, High (Yield)
PWS Protection Areas: Zone II, IWPA, Zone A
Hydrography: Open Water, PWS Reservoir, Tidal Flat
Wetlands: Freshwater, Saltwater, Cranberry Bog
FEMA 100yr Floodplain; Protected Open Space; ACEC
NHESP Pri-Hab of Rare Species; Vernal Pool: Cert., Potential
Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	MASSGIS MAP
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 3-1

B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-05

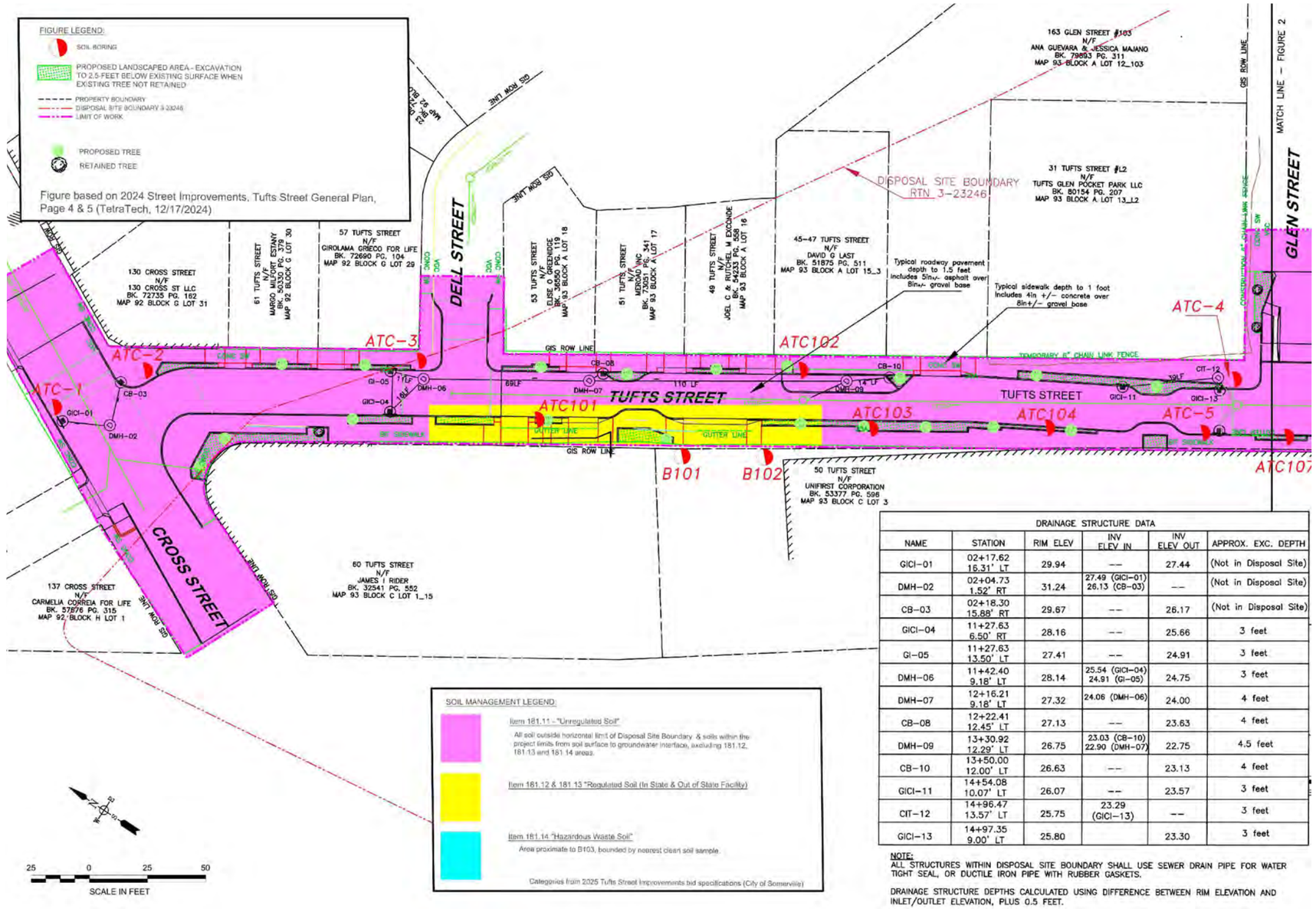


FIGURE LEGEND:
SOIL BORING
PROPOSED LANDSCAPED AREA - EXCAVATION TO 2.5-FEET BELOW EXISTING SURFACE WHEN EXISTING TREE NOT RETAINED
PROPERTY BOUNDARY
DISPOSAL SITE BOUNDARY 3-23246
LIMIT OF WORK
PROPOSED TREE
RETAINED TREE
Figure based on 2024 Street Improvements, Tufts Street General Plan, Page 4 & 5 (TetraTech, 12/17/2024)
DISPOSAL SITE BOUNDARY RTN 3-23246
MATCH LINE - FIGURE 2
DELL STREET
CROSS STREET
TUFTS STREET
GLEN STREET
130 CROSS STREET N/F 130 CROSS ST LLC BK. 72735 PG. 152 MAP 92 BLOCK G LOT 31
61 TUFTS STREET N/F MARGO MILFORT ESTANY BK. 50330 PG. 379 MAP 92 BLOCK G LOT 30
57 TUFTS STREET N/F GIROLAMA GRECO FOR LIFE BK. 72690 PG. 104 MAP 92 BLOCK G LOT 29
53 TUFTS STREET N/F ELISE O GREENIDGE BK. 36550 PG. 119 MAP 93 BLOCK A LOT 18
51 TUFTS STREET N/F MERIAD LLC BK. 73051 PG. 341 MAP 93 BLOCK A LOT 17
49 TUFTS STREET N/F JOEL C & RUTH E. M DICONDE BK. 54233 PG. 480 MAP 93 BLOCK A LOT 16
45-47 TUFTS STREET N/F DAVID G LAST BK. 51875 PG. 511 MAP 93 BLOCK A LOT 15_3
31 TUFTS STREET #L2 N/F TUFTS GLEN POCKET PARK LLC BK. 80154 PG. 207 MAP 93 BLOCK A LOT 13_L2
163 GLEN STREET #103 N/F ANA GUEVARA & JESSICA MAJANO BK. 79893 PG. 311 MAP 93 BLOCK A LOT 12_103
50 TUFTS STREET N/F UNIFIRST CORPORATION BK. 53377 PG. 596 MAP 93 BLOCK C LOT 3
60 TUFTS STREET N/F JAMES I RIDER BK. 32541 PG. 552 MAP 93 BLOCK C LOT 1_15
137 CROSS STREET N/F CARMELIA CORREIA FOR LIFE BK. 57876 PG. 315 MAP 92 BLOCK H LOT 1
Typical roadway pavement depth to 1.5 feet Includes 5in+/- asphalt over 8in+/- gravel base
Typical sidewalk depth to 1 foot Includes 4in +/- concrete over 8in+/- gravel base
TEMPORARY 8' CHAIN LINK FENCE
CONVERSION 8' CHAIN LINK FENCE
ATC-1
ATC-2
ATC-3
ATC-4
ATC-5
ATC101
ATC102
ATC103
ATC104
ATC107
B101
B102
CB-03
CB-08
CB-10
DMH-02
DMH-06
DMH-07
DMH-09
GI-05
GICI-01
GICI-04
GICI-11
GICI-13
CIT-12
SOIL MANAGEMENT LEGEND
Item 181.11 - "Unregulated Soil"
All soil outside horizontal limit of Disposal Site Boundary & soils within the project limits from soil surface to groundwater interface, excluding 181.12, 181.13 and 181.14 areas.
Item 181.12 & 181.13 "Regulated Soil (In State & Out of State Facility)
Item 181.14 "Hazardous Waste Soil"
Area proximate to B103, bounded by nearest clean soil sample.
Categories from 2025 Tufts Street Improvements bid specifications (City of Somerville)
25 0 25 50
SCALE IN FEET

DRAINAGE STRUCTURE DATA

NAME	STATION	RIM ELEV	INV ELEV IN	INV ELEV OUT	APPROX. EXC. DEPTH
GICI-01	02+17.62 16.31' LT	29.94	--	27.44	(Not in Disposal Site)
DMH-02	02+04.73 1.52' RT	31.24	27.49 (GICI-01) 26.13 (CB-03)	--	(Not in Disposal Site)
CB-03	02+18.30 15.88' RT	29.67	--	26.17	(Not in Disposal Site)
GICI-04	11+27.63 6.50' RT	28.16	--	25.66	3 feet
GI-05	11+27.63 13.50' LT	27.41	--	24.91	3 feet
DMH-06	11+42.40 9.18' LT	28.14	25.54 (GICI-04) 24.91 (GI-05)	24.75	3 feet
DMH-07	12+16.21 9.18' LT	27.32	24.06 (DMH-06)	24.00	4 feet
CB-08	12+22.41 12.45' LT	27.13	--	23.63	4 feet
DMH-09	13+30.92 12.29' LT	26.75	23.03 (CB-10) 22.90 (DMH-07)	22.75	4.5 feet
CB-10	13+50.00 12.00' LT	26.63	--	23.13	4 feet
GICI-11	14+54.08 10.07' LT	26.07	--	23.57	3 feet
CIT-12	14+96.47 13.57' LT	25.75	23.29 (GICI-13)	--	3 feet
GICI-13	14+97.35 9.00' LT	25.80		23.30	3 feet

NOTE:
ALL STRUCTURES WITHIN DISPOSAL SITE BOUNDARY SHALL USE SEWER DRAIN PIPE FOR WATER TIGHT SEAL, OR DUCTILE IRON PIPE WITH RUBBER GASKETS.

DRAINAGE STRUCTURE DEPTHS CALCULATED USING DIFFERENCE BETWEEN RIM ELEVATION AND INLET/OUTLET ELEVATION, PLUS 0.5 FEET.

NOTES:

1. BASE PLAN FROM "*SOIL MANAGEMENT AREAS, NORTHWESTERN PROJECT EXTENT, CITY OF SOMERVILLE, TUFTS STREET RIGHT OF WAY IMPROVEMENTS, SOMERVILLE, MA,*" FIGURE 1 PREPARED BY ATLAS AND DATED 08/26/2025.

Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	TUFTS STREET IMPROVEMENTS LIMITS OF WORK (1 of 2)
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 3-2

CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-06.dwg - 6/12/2026

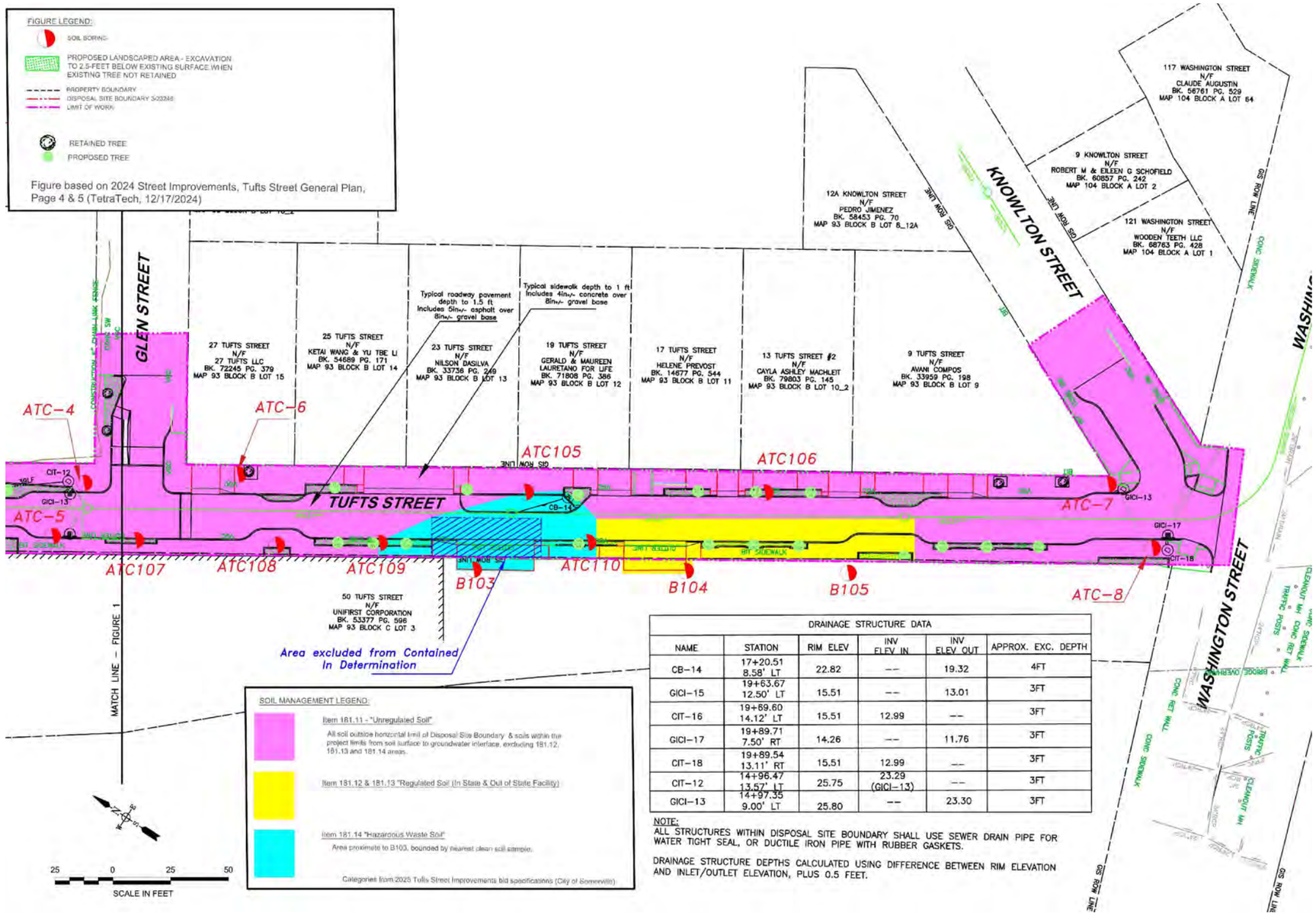


FIGURE LEGEND:
SOIL BORING
PROPOSED LANDSCAPED AREA - EXCAVATION TO 2.5-FEET BELOW EXISTING SURFACE WHEN EXISTING TREE NOT RETAINED
PROPERTY BOUNDARY
DISPOSAL SITE BOUNDARY S-03246
LIMIT OF WORK
RETAINED TREE
PROPOSED TREE
Figure based on 2024 Street Improvements, Tufts Street General Plan, Page 4 & 5 (TetraTech, 12/17/2024)
GLEN STREET
TUFTS STREET
KNOWLTON STREET
WASHINGTON STREET
27 TUFTS STREET N/F 27 TUFTS LLC BK. 72245 PG. 379 MAP 93 BLOCK B LOT 15
25 TUFTS STREET N/F KETAI WANG & YU TBE LI BK. 54689 PG. 171 MAP 93 BLOCK B LOT 14
23 TUFTS STREET N/F NILSON DASILVA BK. 33736 PG. 249 MAP 93 BLOCK B LOT 13
19 TUFTS STREET N/F GERALD & MAUREEN LAURETANO FOR LIFE BK. 71808 PG. 366 MAP 93 BLOCK B LOT 12
17 TUFTS STREET N/F HELENE PREVOST BK. 14677 PG. 544 MAP 93 BLOCK B LOT 11
13 TUFTS STREET #2 N/F CAYLA ASHLEY MACHLEIT BK. 79803 PG. 145 MAP 93 BLOCK B LOT 10_2
9 TUFTS STREET N/F AVANI COMPOS BK. 33959 PG. 198 MAP 93 BLOCK B LOT 9
12A KNOWLTON STREET N/F PEDRO JIMENEZ BK. 58453 PG. 70 MAP 93 BLOCK B LOT 8_12A
9 KNOWLTON STREET N/F ROBERT M & EILEEN G SCHOFIELD BK. 60857 PG. 242 MAP 104 BLOCK A LOT 2
117 WASHINGTON STREET N/F CLAUDE AUGUSTIN BK. 56761 PG. 529 MAP 104 BLOCK A LOT 64
121 WASHINGTON STREET N/F WOODEN TEETH LLC BK. 68763 PG. 428 MAP 104 BLOCK A LOT 1
50 TUFTS STREET N/F UNIFIRST CORPORATION BK. 53377 PG. 596 MAP 93 BLOCK C LOT 3
ATC-4
ATC-5
ATC-6
ATC-7
ATC-8
ATC105
ATC106
ATC107
ATC108
ATC109
ATC110
B103
B104
B105
CIT-12
GICI-13
CB-14
GICI-17
CIT-18
Typical roadway pavement depth to 1.5 ft Includes 5in+/- asphalt over 8in+/- gravel base
Typical sidewalk depth to 1 ft Includes 4in+/- concrete over 8in+/- gravel base
Area excluded from Contained In Determination
MATCH LINE - FIGURE 1
SCALE IN FEET
SOIL MANAGEMENT LEGEND:
Item 181.11 - "Unregulated Soil"
All soil outside horizontal limit of Disposal Site Boundary & soils within the project limits from soil surface to groundwater interface, excluding 181.12, 181.13 and 181.14 areas.
Item 181.12 & 181.13 "Regulated Soil (In State & Out of State Facility)
Item 181.14 "Hazardous Waste Soil"
Area proximate to B103, bounded by nearest clean soil sample.
Categories from 2025 Tufts Street Improvements bid specifications (City of Somerville)

DRAINAGE STRUCTURE DATA

NAME	STATION	RIM ELEV	INV ELEV IN	INV ELEV OUT	APPROX. EXC. DEPTH
CB-14	17+20.51 8.58' LT	22.82	--	19.32	4FT
GICI-15	19+63.67 12.50' LT	15.51	--	13.01	3FT
CIT-16	19+69.60 14.12' LT	15.51	12.99	--	3FT
GICI-17	19+89.71 7.50' RT	14.26	--	11.76	3FT
CIT-18	19+89.54 13.11' RT	15.51	12.99	--	3FT
CIT-12	14+96.47 13.57' LT	25.75	23.29 (GICI-13)	--	3FT
GICI-13	14+97.35 9.00' LT	25.80	--	23.30	3FT

NOTE:
ALL STRUCTURES WITHIN DISPOSAL SITE BOUNDARY SHALL USE SEWER DRAIN PIPE FOR WATER TIGHT SEAL, OR DUCTILE IRON PIPE WITH RUBBER GASKETS.

DRAINAGE STRUCTURE DEPTHS CALCULATED USING DIFFERENCE BETWEEN RIM ELEVATION AND INLET/OUTLET ELEVATION, PLUS 0.5 FEET.

NOTES:

1. BASE PLAN FROM "*SOIL MANAGEMENT AREAS, SOUTHEASTERN PROJECT EXTENT, CITY OF SOMERVILLE, TUFTS STREET RIGHT OF WAY IMPROVEMENTS, SOMERVILLE, MA,*" FIGURE 2 PREPARED BY ATLAS AND DATED 08/26/2025.

Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	TUFTS STREET IMPROVEMENTS LIMITS OF WORK (2 of 2)
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 3-3

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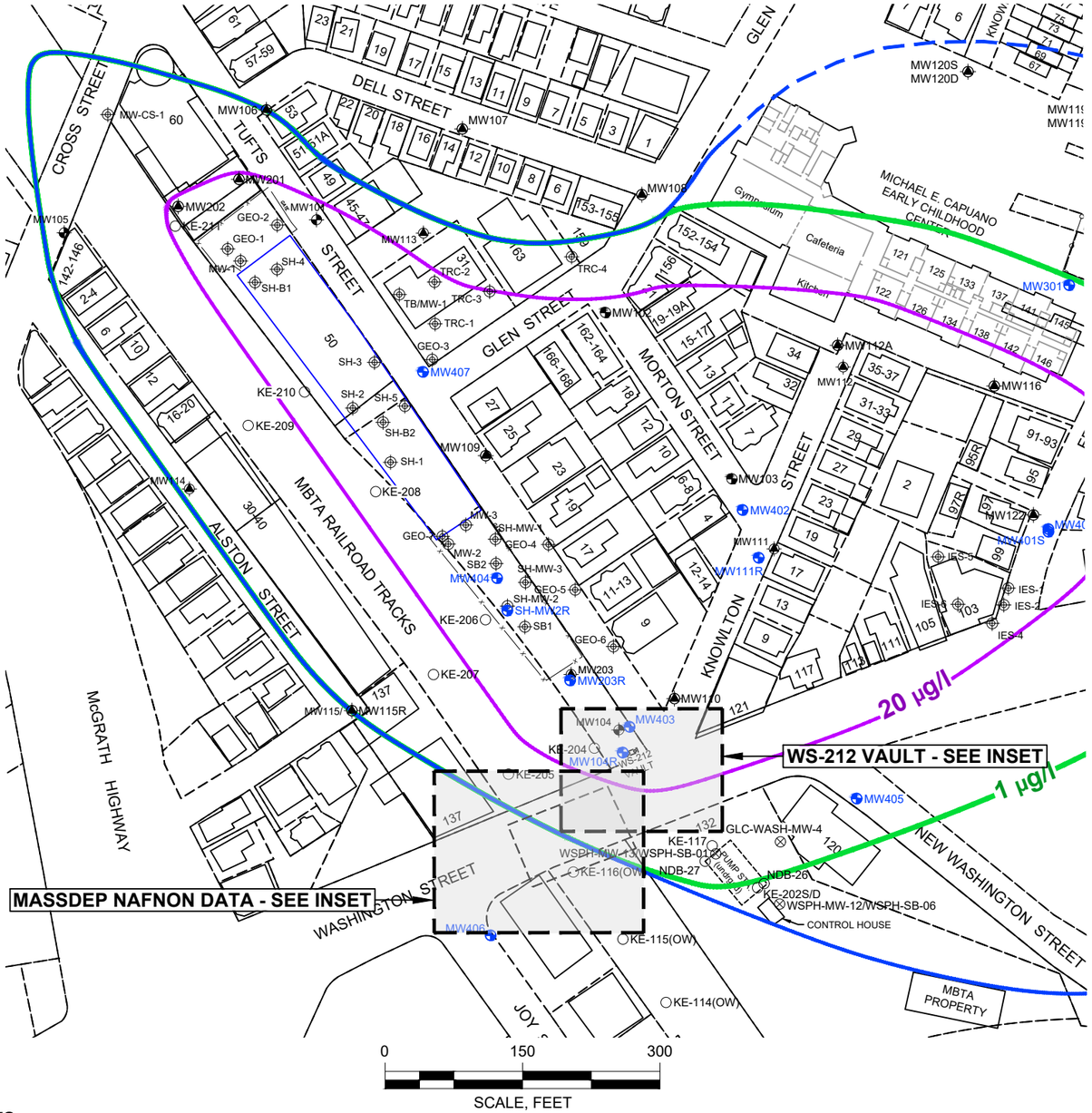
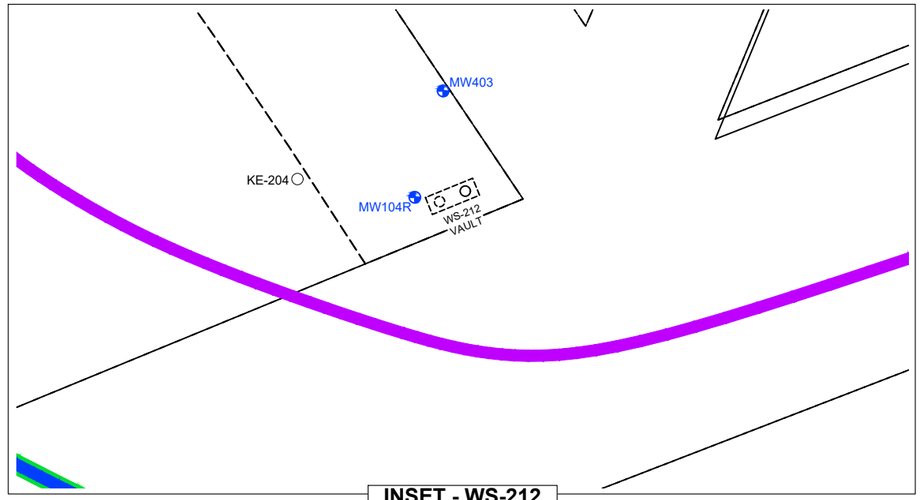
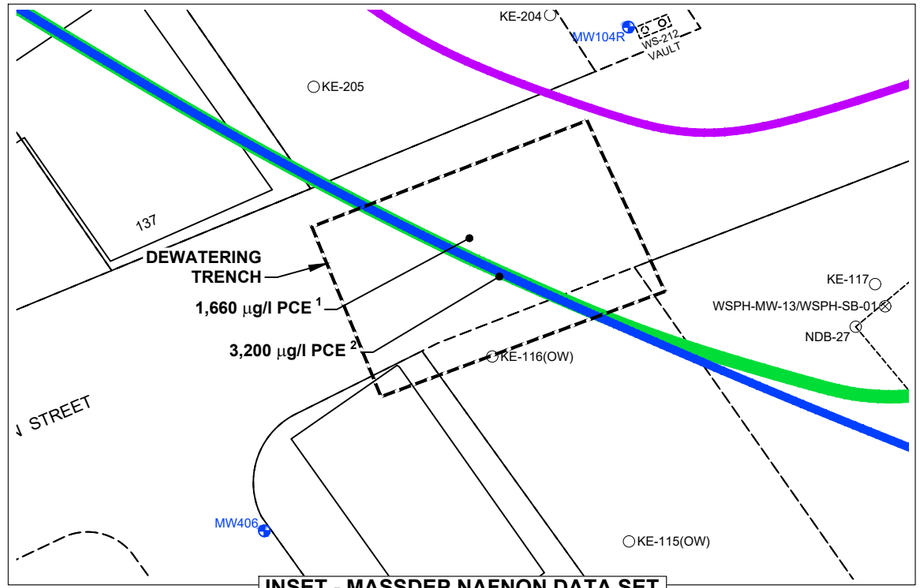




INSET - WS-212
1" = 40'



INSET - MASSDEP NAFNON DATA SET
1" = 60'

[1] MEASURED IN TRENCH, 2019

[2] COLLECTED BY MBTA, 2021

NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES FROM MASSGIS DATABASE.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC. OR INFORMATION PROVIDED BY KLEINFELDER.
4. GEI OBSERVED DECOMMISSIONING OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

LEGEND:

- DISPOSAL SITE BOUNDARY BASED ON PCE CONCENTRATIONS IN SHALLOW OVERBURDEN AND BEDROCK GROUNDWATER (DASHED WHERE INFERRED)
- EXTENT OF PCE CONCENTRATION IN SHALLOW OVERBURDEN GROUNDWATER GREATER THAN OR EQUAL TO 20 µg/l
- EXTENT OF PCE CONCENTRATION IN SHALLOW OVERBURDEN GROUNDWATER GREATER THAN OR EQUAL TO 1 µg/l

µg/l = MICROGRAMS PER LITER

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MASSDEP NAFNON SAMPLING LOCATIONS & WS-212 VAULT DETAIL

Project 045163 | June 2026 | Fig. 5-1

CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-14.dwg - 6/12/2026

LEGEND:

- PASSIVE EPMM RESIDENCES - INDOOR AIR SAMPLING REQUIRED BY NAFNON COMPLETED
- RESIDENCES WHICH REFUSED EPMM - INDOOR AIR SAMPLING REQUIRED BY NAFNON COMPLETED
- INDOOR AIR SAMPLING COMPLETED

NOTES:

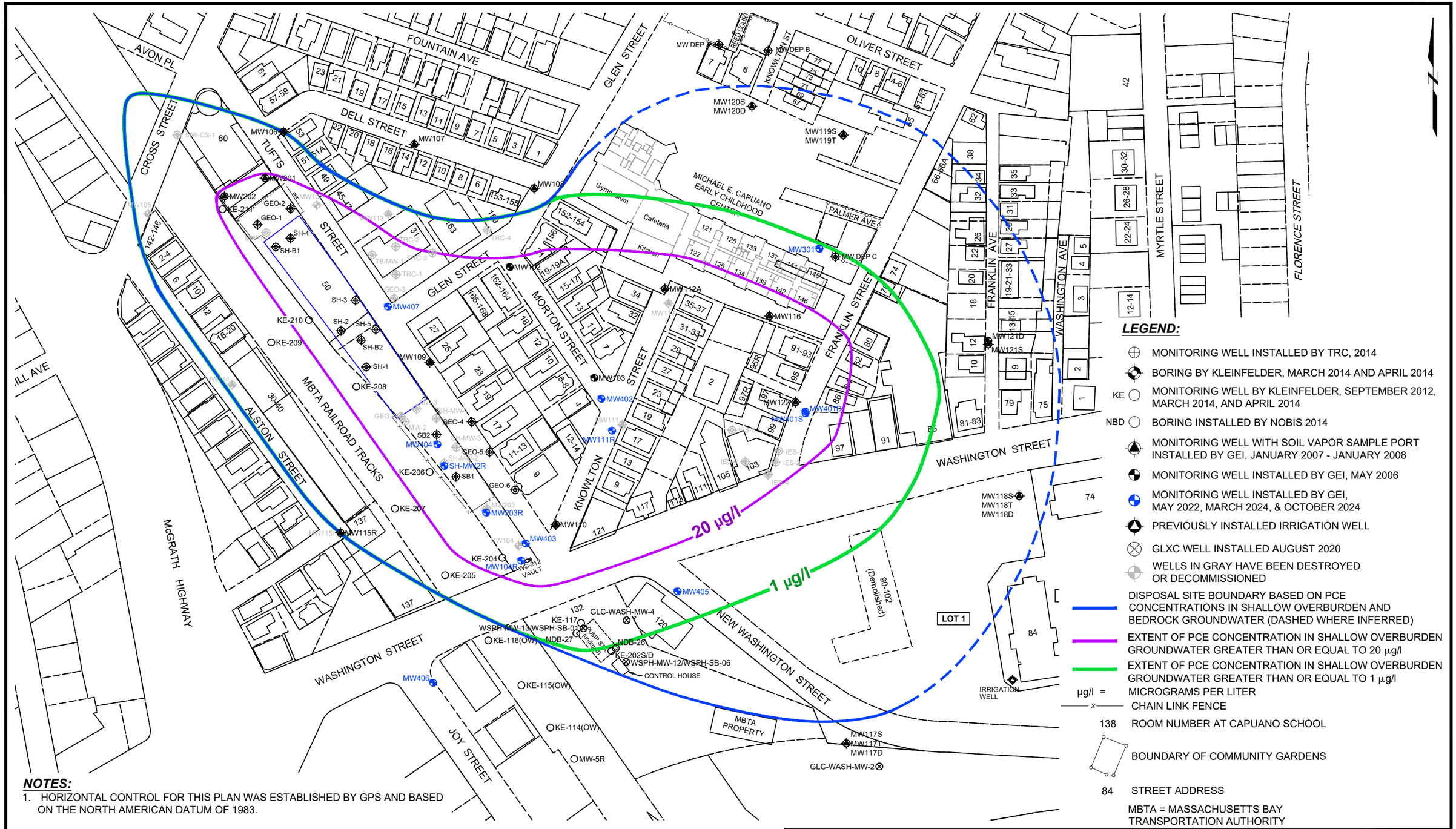
1. SITE FEATURES ARE APPROXIMATE.
2. STREET AND PROPERTY LINES FROM MASSGIS DATABASE.

0 100 200

SCALE, FEET

Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	NAFNON INDOOR AIR SAMPLING
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 6-1

CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-11.dwg - 6/12/2026



LEGEND:

- MONITORING WELL INSTALLED BY TRC, 2014
- BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- KE ○ MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- NBD ○ BORING INSTALLED BY NOBIS 2014
- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED BY GEI, MAY 2022, MARCH 2024, & OCTOBER 2024
- PREVIOUSLY INSTALLED IRRIGATION WELL
- GLXC WELL INSTALLED AUGUST 2020
- WELLS IN GRAY HAVE BEEN DESTROYED OR DECOMMISSIONED
- DISPOSAL SITE BOUNDARY BASED ON PCE CONCENTRATIONS IN SHALLOW OVERBURDEN AND BEDROCK GROUNDWATER (DASHED WHERE INFERRED)
- EXTENT OF PCE CONCENTRATION IN SHALLOW OVERBURDEN GROUNDWATER GREATER THAN OR EQUAL TO 20 µg/l
- EXTENT OF PCE CONCENTRATION IN SHALLOW OVERBURDEN GROUNDWATER GREATER THAN OR EQUAL TO 1 µg/l
- µg/l = MICROGRAMS PER LITER
- CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS

MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES FROM MASSGIS DATABASE.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC. OR INFORMATION PROVIDED BY KLEINFELDER.
4. GEI OBSERVED DECOMMISSIONING OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

0 150 300
SCALE, FEET

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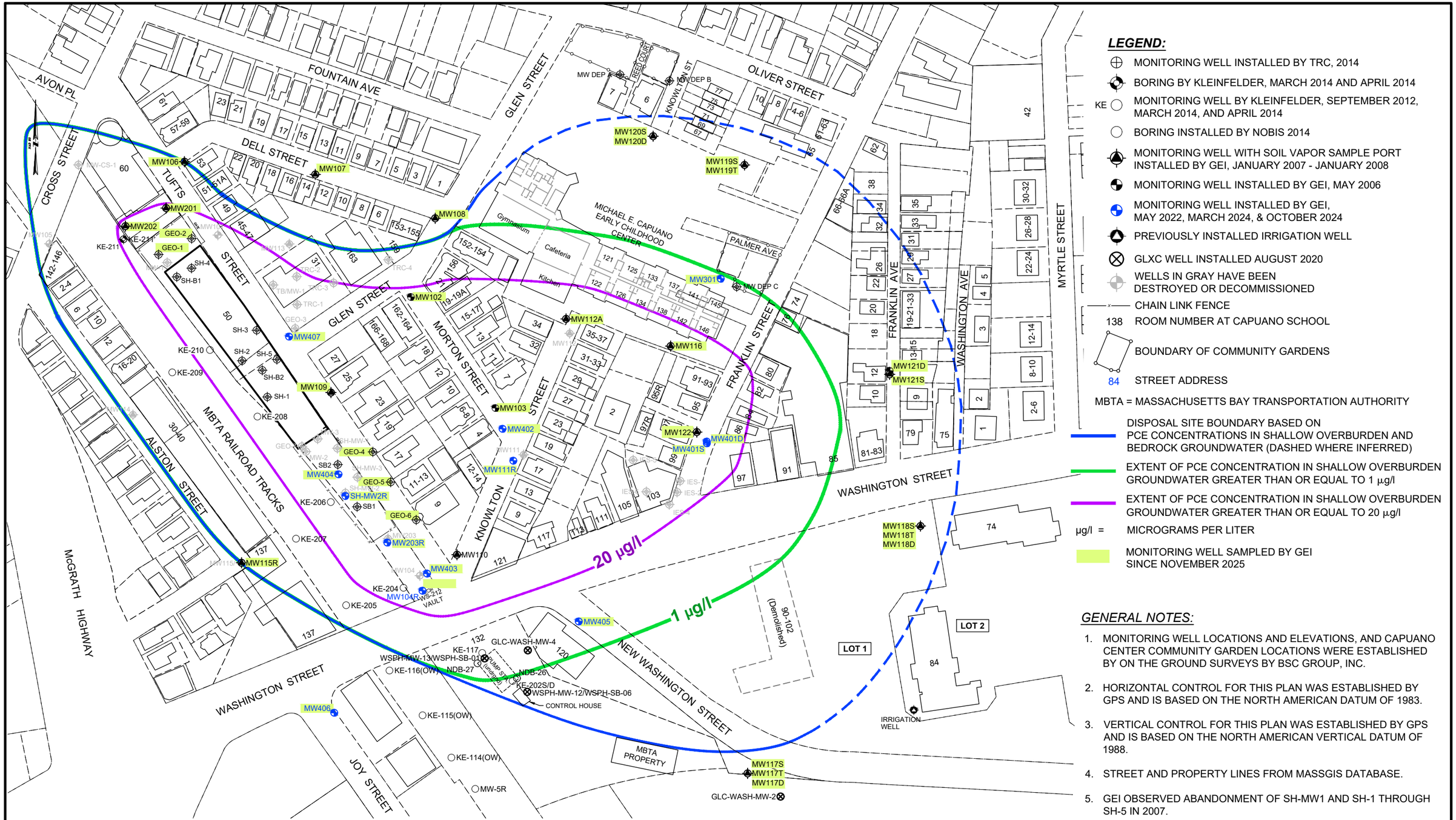
EXPLORATION LOCATION PLAN

Project 045163 | June 2026 | Fig. 7-1

CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-02.dwg - 6/12/2026



LEGEND:

- MONITORING WELL INSTALLED BY TRC, 2014
- BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- KE ○ MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- BORING INSTALLED BY NOBIS 2014
- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED BY GEI, MAY 2022, MARCH 2024, & OCTOBER 2024
- PREVIOUSLY INSTALLED IRRIGATION WELL
- GLXC WELL INSTALLED AUGUST 2020
- WELLS IN GRAY HAVE BEEN DESTROYED OR DECOMMISSIONED
- CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS

MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

- DISPOSAL SITE BOUNDARY BASED ON PCE CONCENTRATIONS IN SHALLOW OVERBURDEN AND BEDROCK GROUNDWATER (DASHED WHERE INFERRED)
- EXTENT OF PCE CONCENTRATION IN SHALLOW OVERBURDEN GROUNDWATER GREATER THAN OR EQUAL TO 1 µg/l
- EXTENT OF PCE CONCENTRATION IN SHALLOW OVERBURDEN GROUNDWATER GREATER THAN OR EQUAL TO 20 µg/l

µg/l = MICROGRAMS PER LITER

MONITORING WELL SAMPLED BY GEI SINCE NOVEMBER 2025

GENERAL NOTES:

1. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
2. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
3. VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
4. STREET AND PROPERTY LINES FROM MASSGIS DATABASE.
5. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

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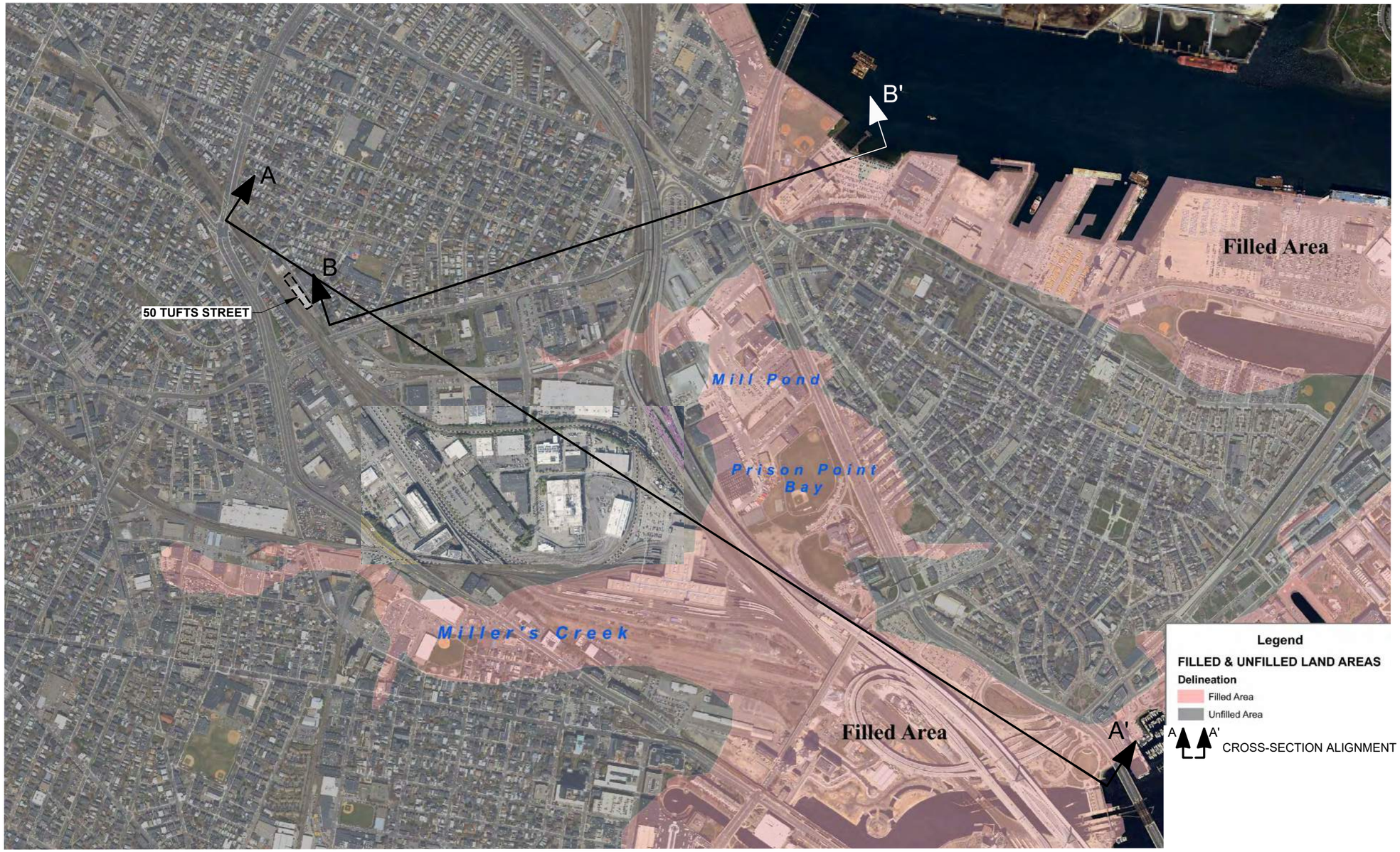
MONITORING WELL LOCATIONS

Project 045163 | June 2026 | Fig. 7-2

B:\Private\04516\#Drafting\04516-3\Phase V SRs & RMRs\045163 PhV SR MW Loc



N

SOURCE:

PLAN 1:5,000 - Color Ortho-Imagery, MassGIS, 2005.
Seasholes, N. Gaining Ground, 2003.
Krieger, et. al. Mapping Boston, 1999.
Boston Harbor, Massachusetts from a Trigonometrical Survey, 1857, Survey of the Coast of the United States, 1:40,000.
Boston Inner Harbor, Marine Chart No. 13272, 49th Edition, October 2004, National Oceanic and Atmospheric Administration, 1:10,000.

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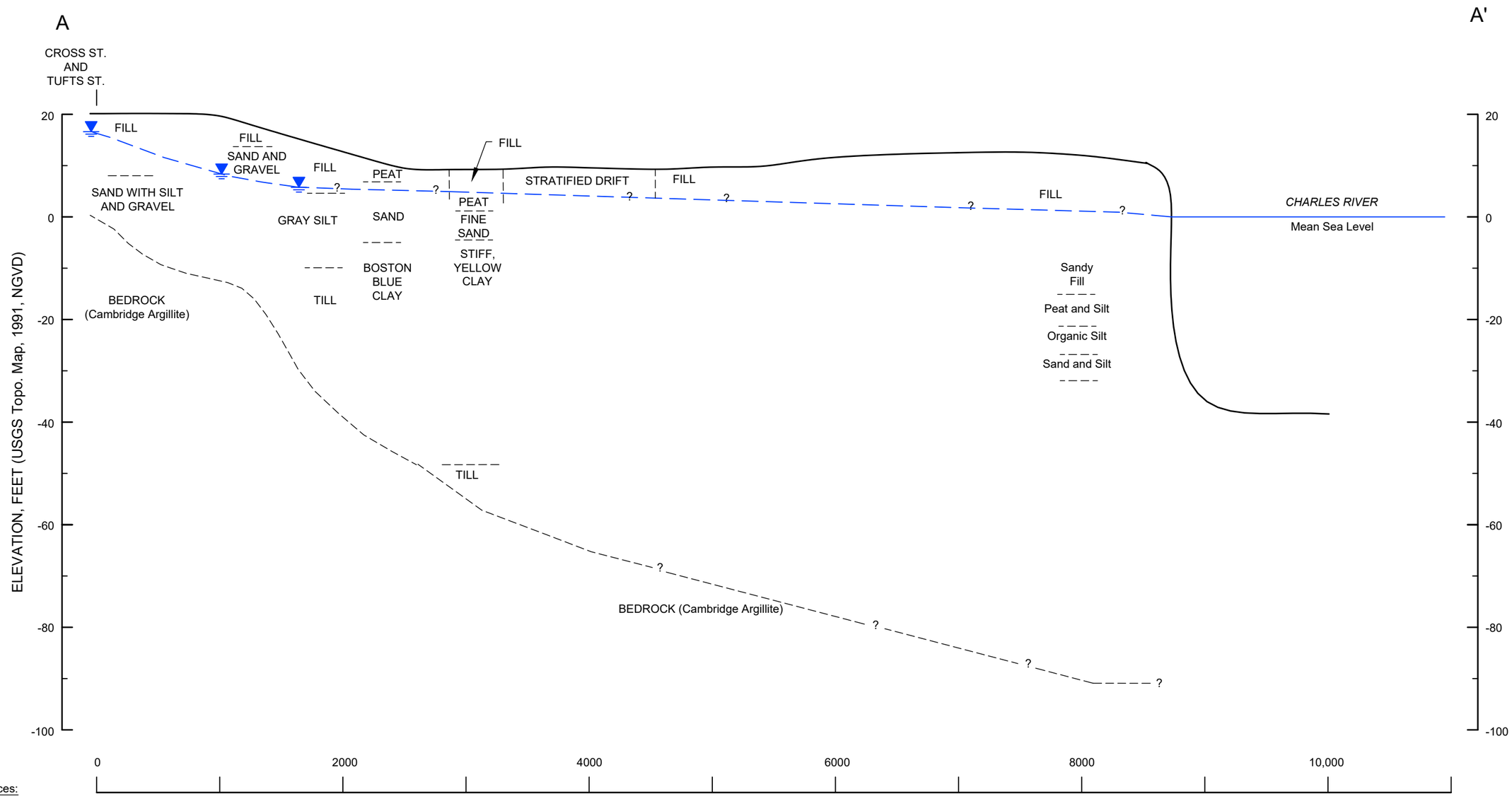
AERIAL PHOTO WITH REGIONAL FILL AREAS AND CROSS-SECTION LOCATIONS

Project 045163 | June 2026 | Fig. 8-1



Sources:

1 - GEI Consultants, Borings, 2006-2007.
2 - Hager Geosciences, Geophysical Survey, 2007.
3 - Journals of the Boston Society of Civil Engineers, 1961.
4 - Seasholes, N., Gaining Ground, 2003.
5 - Boston Harbor, Massachusetts from a Trigonometrical Survey, 1857, Survey of the Coast of the United States, 1:40,000.
6 - Krieger et al, Mapping Boston, 1999.
7 - Kaye, C. Surficial Geologic Map of the Boston Area, Massachusetts, 1978.
8 - U.S.G.S. Topographic Map, 1991.
9 - Kaye, C., Bedrock Geology, Boston North, Boston South and Newton Quads, Mass, 1980.
10 - Boston Inner Harbor, Marine Chart No. 13272, 49th Edition, October 2004, National Oceanic and Atmospheric Administration, 1:10,000.

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GENERALIZED REGIONAL CROSS-SECTION A-A'

Project 045163 | June 2026 | Fig. 8-2

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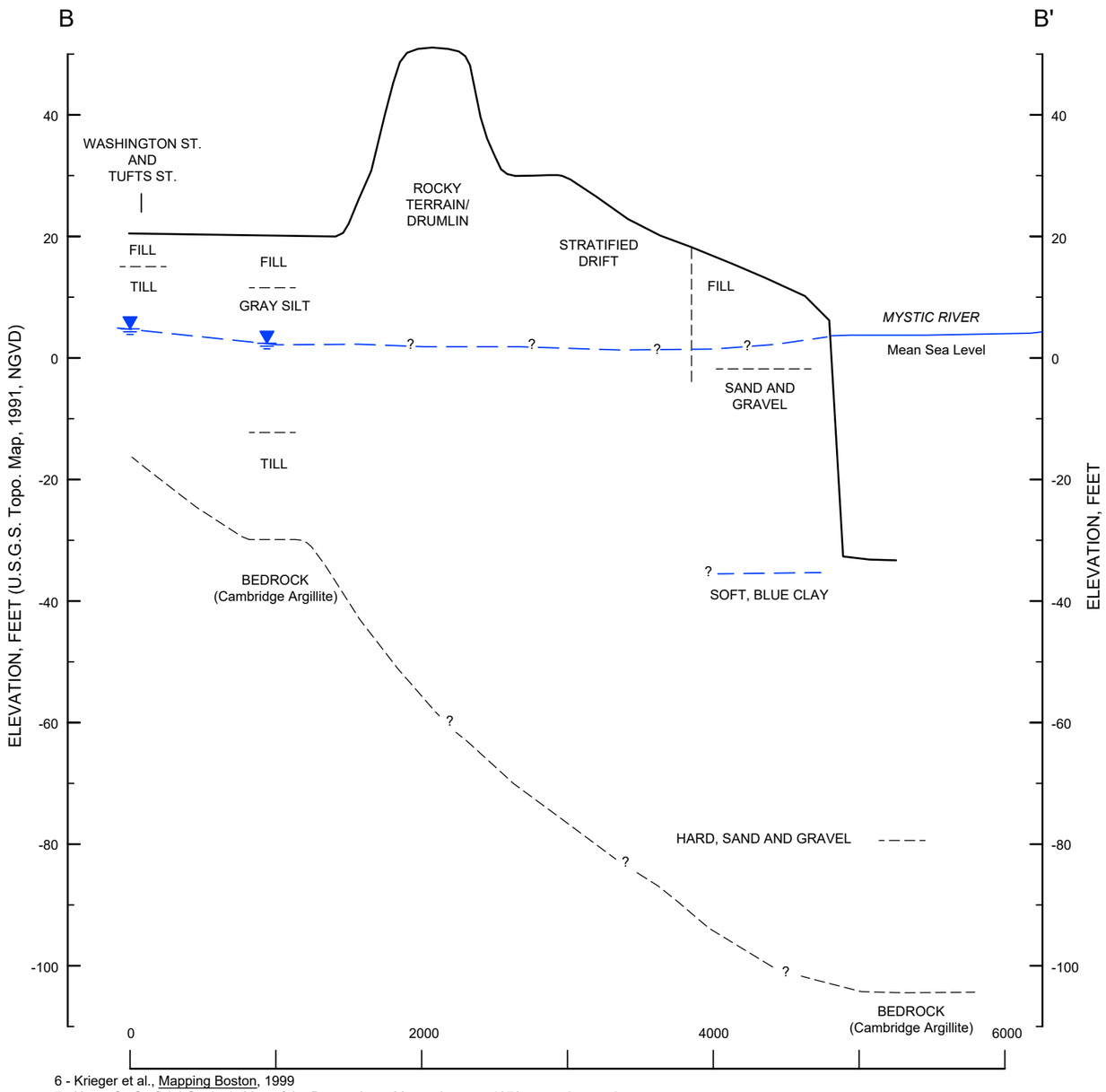
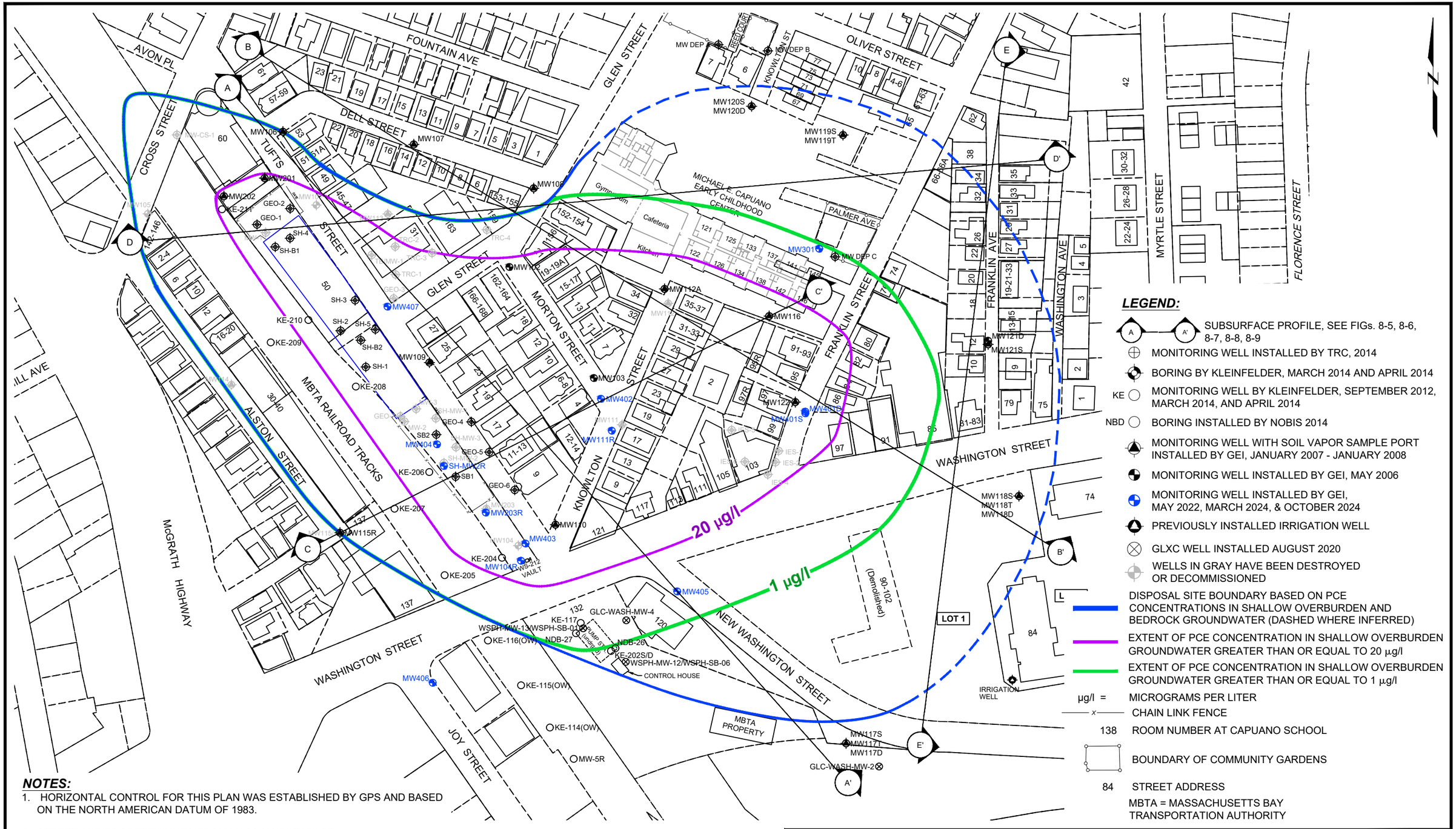


Sources:

1 - GEI Consultants, Borings, 2006-2007.
2 - Hager Geosciences, Geophysical Survey, 2007.
3 - Journals of the Boston Society of Civil Engineers, 1961
4 - Seasholes, N., Gaining Ground, 2003.
5 - Boston Harbor, Massachusetts from a Trigonometrical Survey, 1857, Survey of the Coast of the United States, 1:40,000.
6 - Krieger et al., Mapping Boston, 1999
7 - Kaye, C., Surficial Geologic Map of the Boston Area, Massachusetts, 1978.
8 - U.S.G.S. Topographic Map, 1991.
9 - Kaye, C., Bedrock Geology, Boston North, Boston South and Newton Quads, Mass., 1980.
10 - Boston Inner Harbor, Marine Chart No. 13272, 49th Edition, October 2004, National Oceanic and Atmospheric Administration, 1:10,000.

Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	GENERALIZED REGIONAL CROSS-SECTION B-B'
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 8-3



LEGEND:

- A — A' SUBSURFACE PROFILE, SEE FIGs. 8-5, 8-6, 8-7, 8-8, 8-9
- MONITORING WELL INSTALLED BY TRC, 2014
- BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- KE ○ MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- NBD ○ BORING INSTALLED BY NOBIS 2014
- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED BY GEI, MAY 2022, MARCH 2024, & OCTOBER 2024
- PREVIOUSLY INSTALLED IRRIGATION WELL
- GLXC WELL INSTALLED AUGUST 2020
- WELLS IN GRAY HAVE BEEN DESTROYED OR DECOMMISSIONED
- DISPOSAL SITE BOUNDARY BASED ON PCE CONCENTRATIONS IN SHALLOW OVERBURDEN AND BEDROCK GROUNDWATER (DASHED WHERE INFERRED)
- EXTENT OF PCE CONCENTRATION IN SHALLOW OVERBURDEN GROUNDWATER GREATER THAN OR EQUAL TO 20 µg/l
- EXTENT OF PCE CONCENTRATION IN SHALLOW OVERBURDEN GROUNDWATER GREATER THAN OR EQUAL TO 1 µg/l
- µg/l = MICROGRAMS PER LITER
- x CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES FROM MASSGIS DATABASE.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC. OR INFORMATION PROVIDED BY KLEINFELDER.
4. GEI OBSERVED DECOMMISSIONING OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

0 150 300
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CROSS-SECTION LOCATION PLAN

Project 045163 | June 2026 | Fig. 8-4

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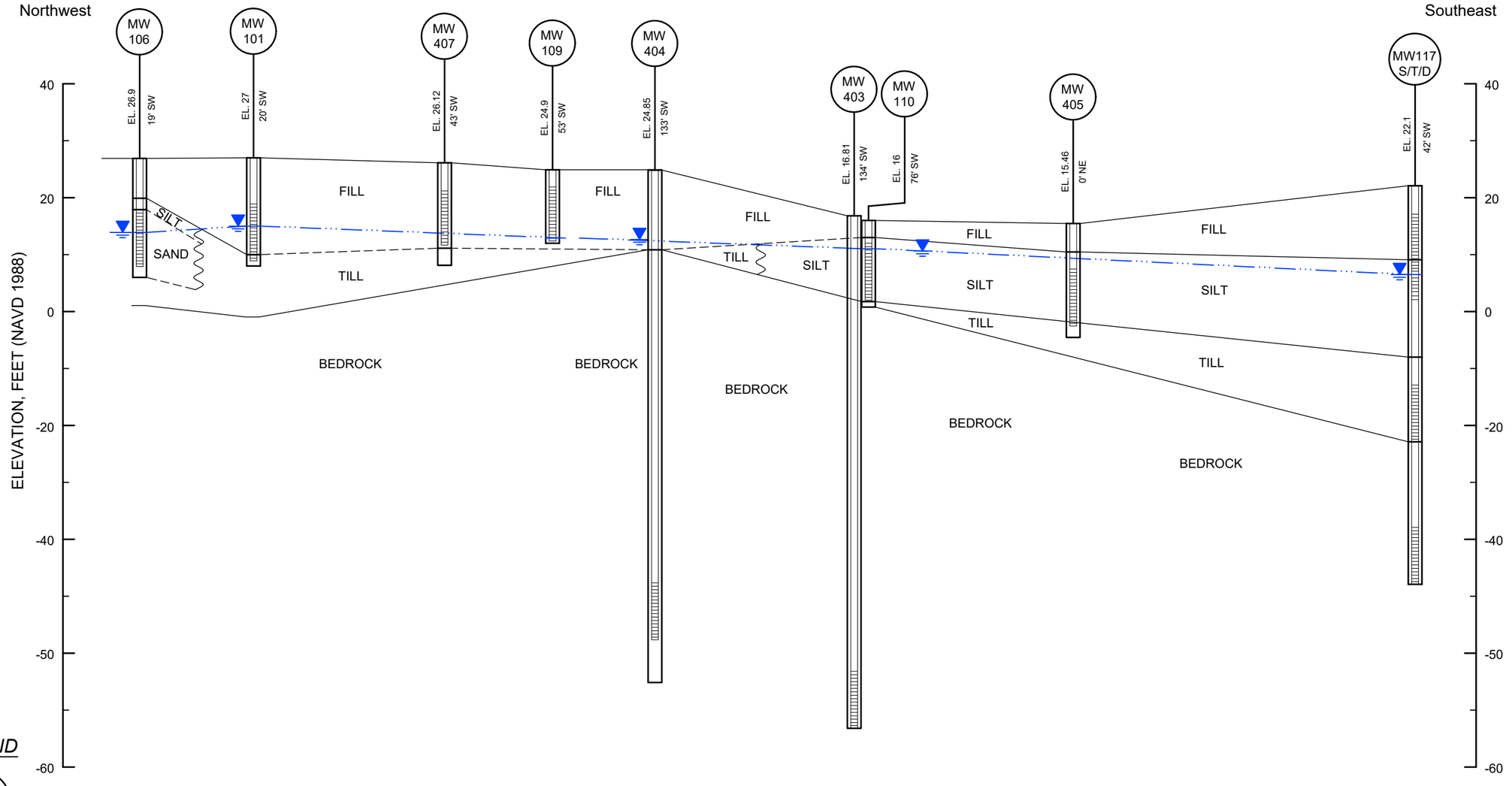
A

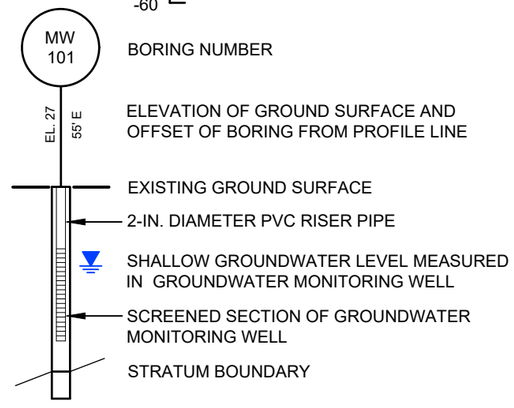
Northwest

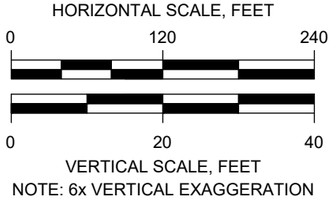
A'

Southeast



LEGEND


MW 101
BORING NUMBER
EL. 27
55' E
ELEVATION OF GROUND SURFACE AND OFFSET OF BORING FROM PROFILE LINE
EXISTING GROUND SURFACE
2-IN. DIAMETER PVC RISER PIPE
SHALLOW GROUNDWATER LEVEL MEASURED IN GROUNDWATER MONITORING WELL
SCREENED SECTION OF GROUNDWATER MONITORING WELL
STRATUM BOUNDARY



NOTES:

1. SEE FIG. 3 FOR SUBSURFACE PROFILE LOCATIONS.
2. BEDROCK AND SELECTED TILL ELEVATIONS BASED ON GPR SURVEY CONDUCTED BY HAGER GEOSCIENCE, INC., NOVEMBER 2007.
3. BORING LOGS IN APPENDIX F.

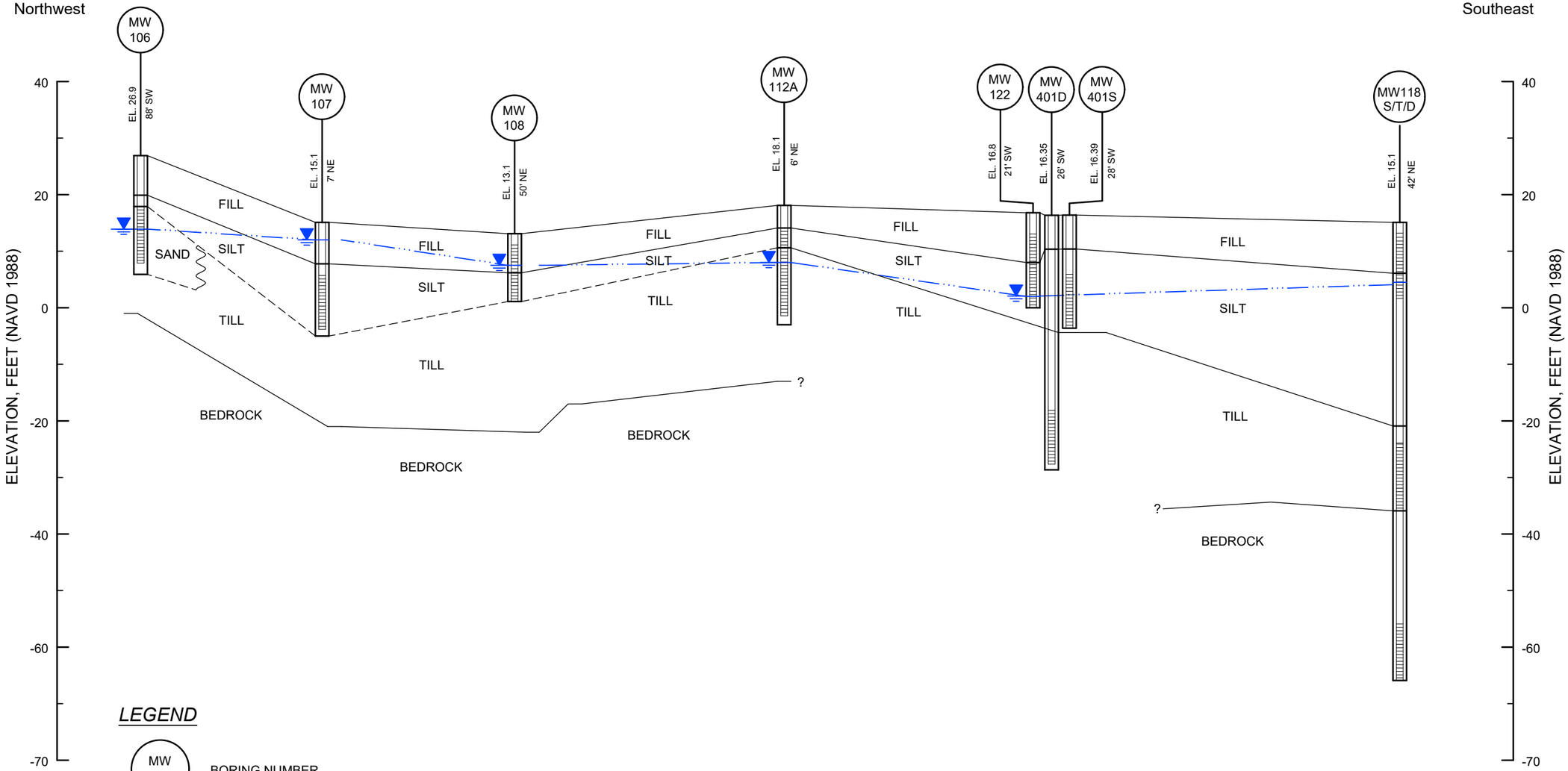
Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	SUBSURFACE PROFILE A-A'
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 8-5

B

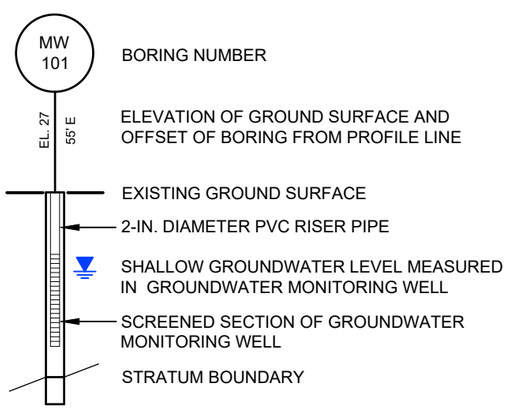
Northwest

B'

Southeast



LEGEND



BORING NUMBER

ELEVATION OF GROUND SURFACE AND OFFSET OF BORING FROM PROFILE LINE

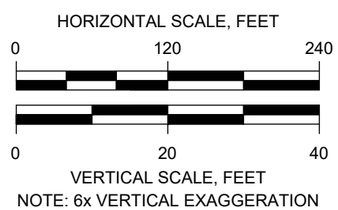
EXISTING GROUND SURFACE

2-IN. DIAMETER PVC RISER PIPE

SHALLOW GROUNDWATER LEVEL MEASURED IN GROUNDWATER MONITORING WELL

SCREENED SECTION OF GROUNDWATER MONITORING WELL

STRATUM BOUNDARY

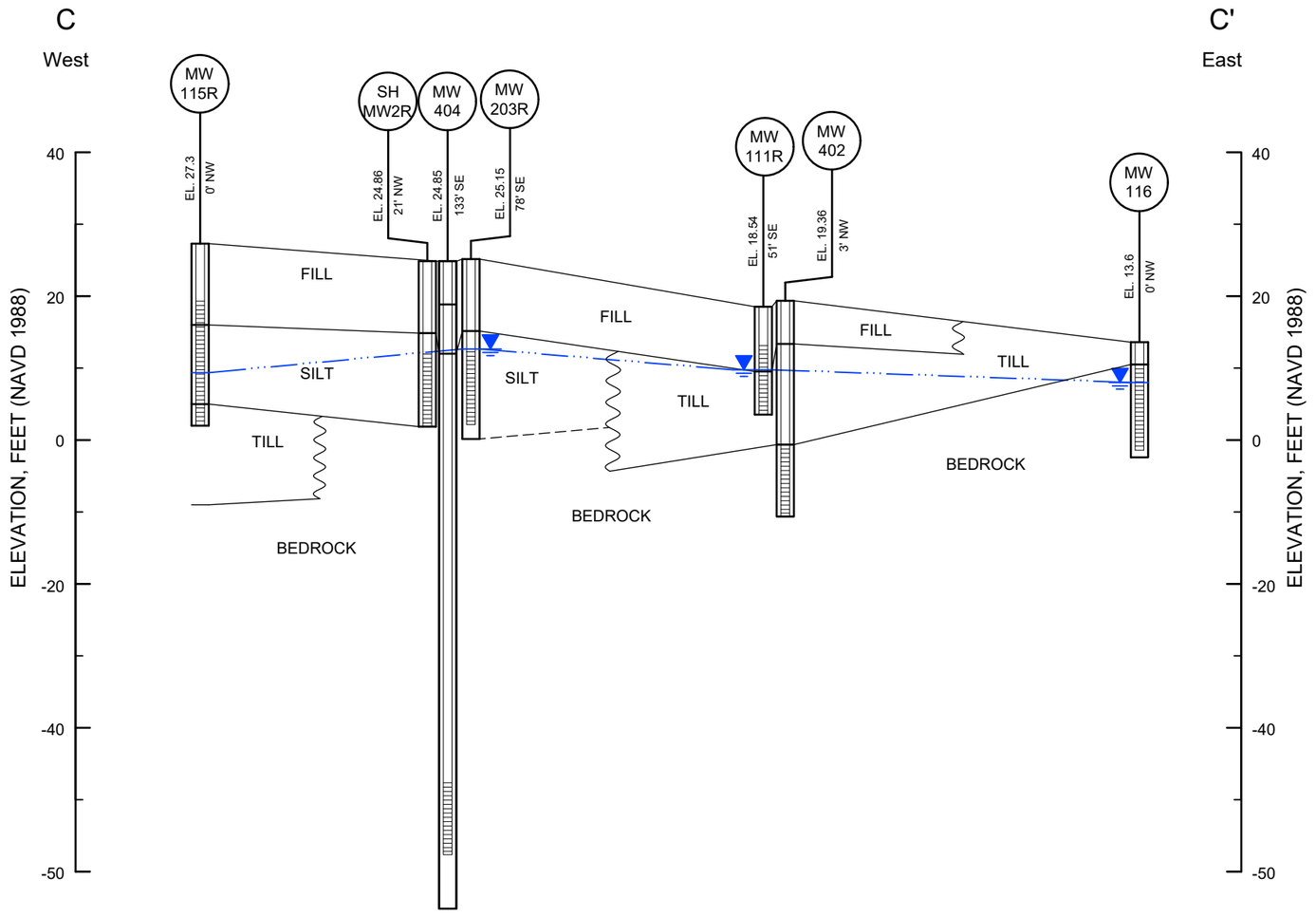


NOTE: 6x VERTICAL EXAGGERATION

NOTES:

1. SEE FIG. 3 FOR SUBSURFACE PROFILE LOCATIONS.
2. BEDROCK AND SELECTED TILL ELEVATIONS BASED ON GPR SURVEY CONDUCTED BY HAGER GEOSCIENCE, INC., NOVEMBER 2007.
3. BORING LOGS IN APPENDIX F.

Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	SUBSURFACE PROFILE B-B'
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 8-6



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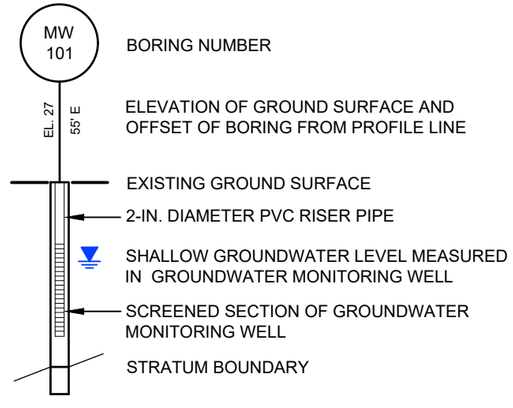
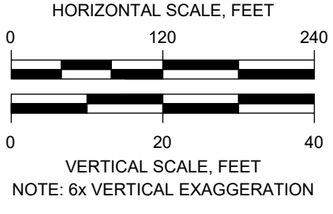
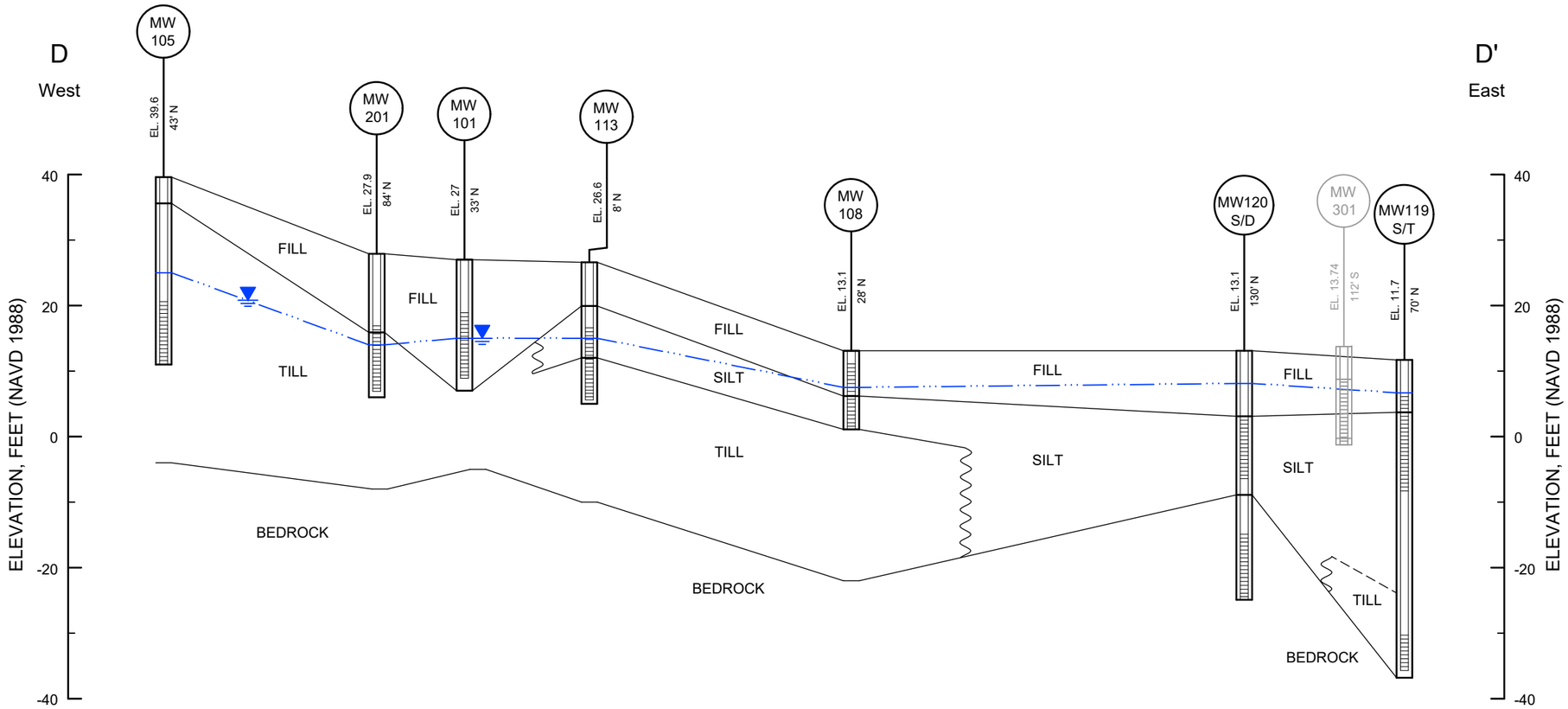

MW 101
BORING NUMBER
EL. 27
55' E
ELEVATION OF GROUND SURFACE AND OFFSET OF BORING FROM PROFILE LINE
EXISTING GROUND SURFACE
2-IN. DIAMETER PVC RISER PIPE
SHALLOW GROUNDWATER LEVEL MEASURED IN GROUNDWATER MONITORING WELL
SCREENED SECTION OF GROUNDWATER MONITORING WELL
STRATUM BOUNDARY



NOTES:

1. SEE FIG. 3 FOR SUBSURFACE PROFILE LOCATIONS.
2. BEDROCK AND SELECTED TILL ELEVATIONS BASED ON GPR SURVEY CONDUCTED BY HAGER GEOSCIENCE, INC., NOVEMBER 2007.
3. BORING LOGS IN APPENDIX F.

Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	SUBSURFACE PROFILE C-C'
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 8-7



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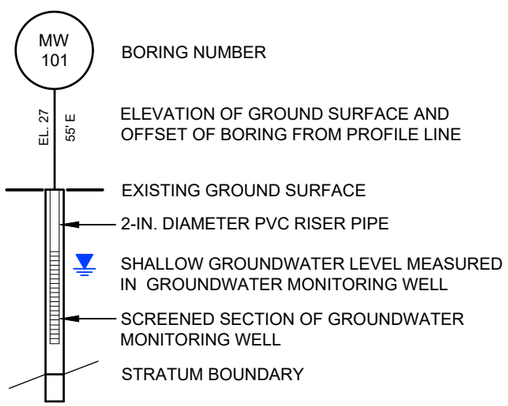
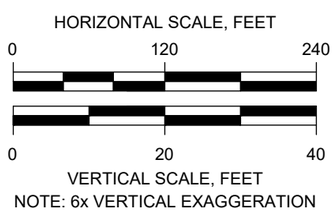
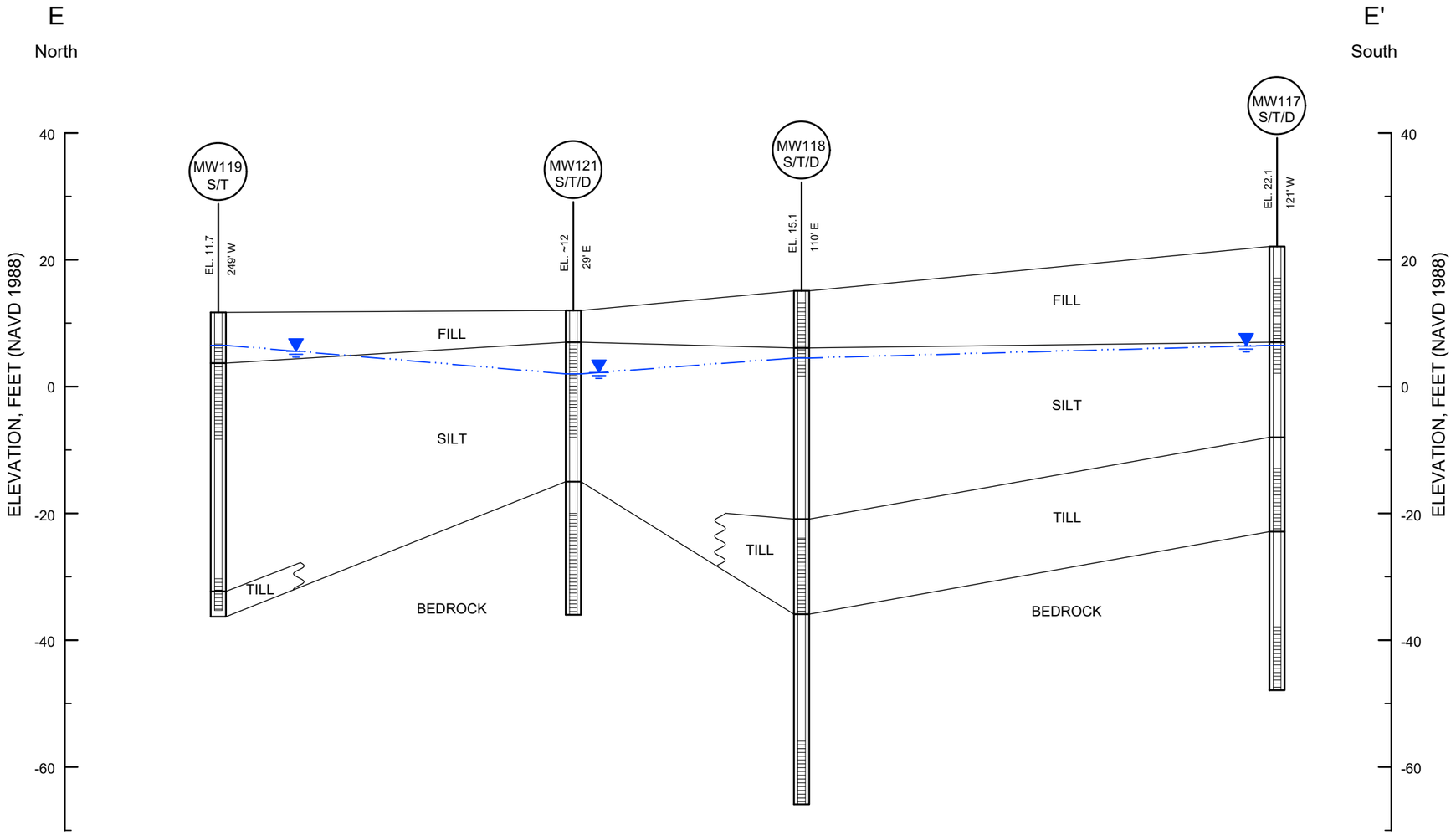

MW 101
BORING NUMBER
EL. 27
55' E
ELEVATION OF GROUND SURFACE AND OFFSET OF BORING FROM PROFILE LINE
EXISTING GROUND SURFACE
2-IN. DIAMETER PVC RISER PIPE
SHALLOW GROUNDWATER LEVEL MEASURED IN GROUNDWATER MONITORING WELL
SCREENED SECTION OF GROUNDWATER MONITORING WELL
STRATUM BOUNDARY



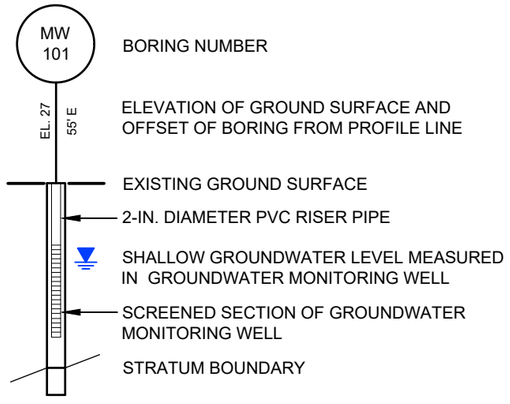
NOTES:

1. SEE FIG. 3 FOR SUBSURFACE PROFILE LOCATIONS.
2. BEDROCK AND SELECTED TILL ELEVATIONS BASED ON GPR SURVEY CONDUCTED BY HAGER GEOSCIENCE, INC., NOVEMBER 2007.
3. BORING LOGS IN APPENDIX F.
4. WELLS SHOWN IN GRAY NOT USED FOR INTERPRETED STATIGRAPHY.

Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	SUBSURFACE PROFILE D-D'
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 8-8



LEGEND



- BORING NUMBER
- ELEVATION OF GROUND SURFACE AND OFFSET OF BORING FROM PROFILE LINE
- EXISTING GROUND SURFACE
- 2-IN. DIAMETER PVC RISER PIPE
- SHALLOW GROUNDWATER LEVEL MEASURED IN GROUNDWATER MONITORING WELL
- SCREENED SECTION OF GROUNDWATER MONITORING WELL
- STRATUM BOUNDARY

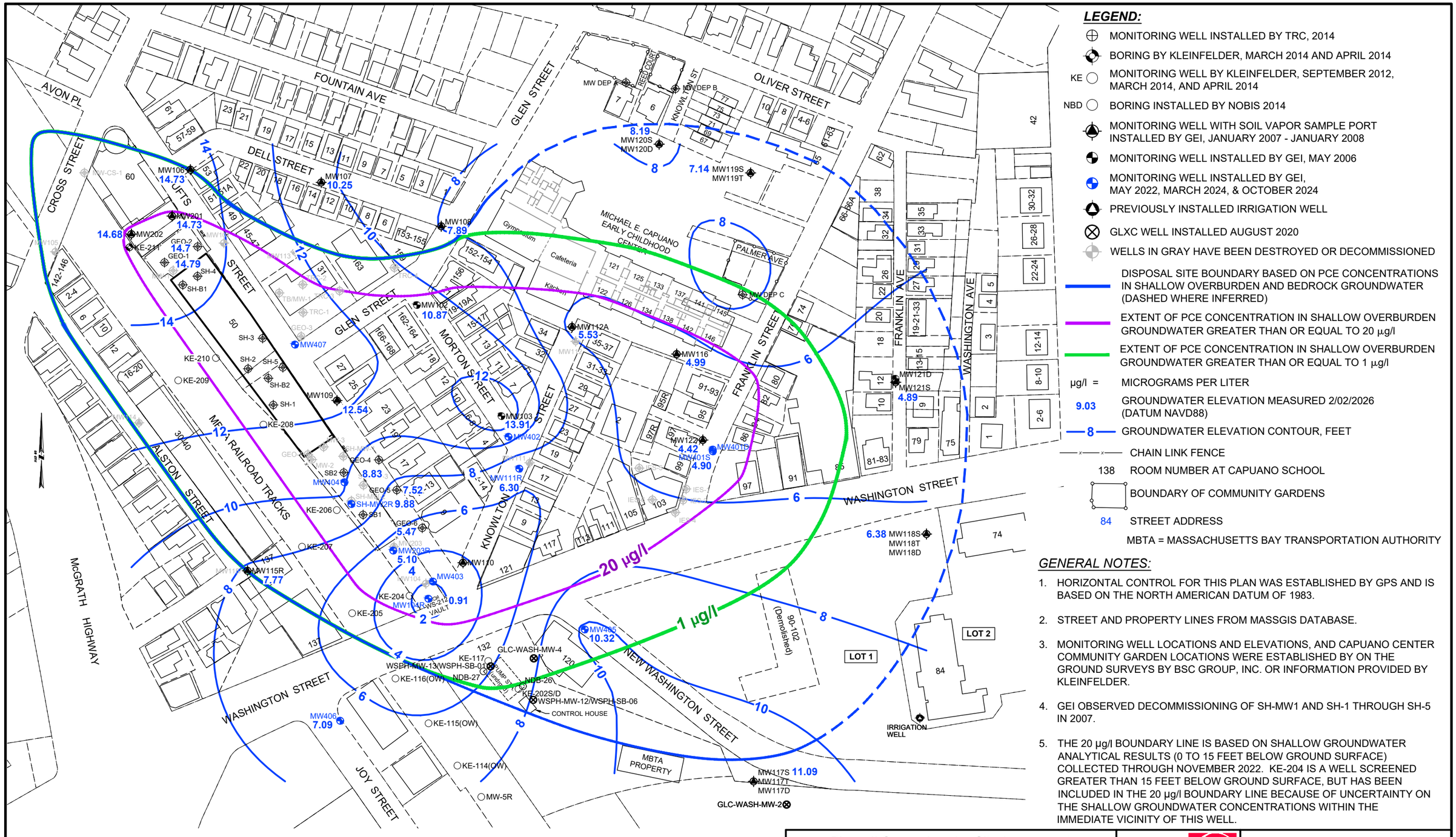
HORIZONTAL SCALE, FEET
0 120 240

0 20 40
VERTICAL SCALE, FEET
NOTE: 6x VERTICAL EXAGGERATION

NOTES:

1. SEE FIG. 3 FOR SUBSURFACE PROFILE LOCATIONS.
2. BEDROCK AND SELECTED TILL ELEVATIONS BASED ON GPR SURVEY CONDUCTED BY HAGER GEOSCIENCE, INC., NOVEMBER 2007.
3. BORING LOGS IN APPENDIX F.

Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	SUBSURFACE PROFILE E-E'
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 8-9



LEGEND:

- MONITORING WELL INSTALLED BY TRC, 2014
- BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- KE — MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- NBD — BORING INSTALLED BY NOBIS 2014
- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED BY GEI, MAY 2022, MARCH 2024, & OCTOBER 2024
- PREVIOUSLY INSTALLED IRRIGATION WELL
- GLXC WELL INSTALLED AUGUST 2020
- WELLS IN GRAY HAVE BEEN DESTROYED OR DECOMMISSIONED
- DISPOSAL SITE BOUNDARY BASED ON PCE CONCENTRATIONS IN SHALLOW OVERBURDEN AND BEDROCK GROUNDWATER (DASHED WHERE INFERRED)
- EXTENT OF PCE CONCENTRATION IN SHALLOW OVERBURDEN GROUNDWATER GREATER THAN OR EQUAL TO 20 µg/l
- EXTENT OF PCE CONCENTRATION IN SHALLOW OVERBURDEN GROUNDWATER GREATER THAN OR EQUAL TO 1 µg/l
- µg/l = MICROGRAMS PER LITER
- 9.03 — GROUNDWATER ELEVATION MEASURED 2/02/2026 (DATUM NAVD88)
- 8 — GROUNDWATER ELEVATION CONTOUR, FEET
- CHAIN LINK FENCE
- 138 — ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 — STREET ADDRESS
- MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES FROM MASSGIS DATABASE.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC. OR INFORMATION PROVIDED BY KLEINFELDER.
4. GEI OBSERVED DECOMMISSIONING OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.
5. THE 20 µg/l BOUNDARY LINE IS BASED ON SHALLOW GROUNDWATER ANALYTICAL RESULTS (0 TO 15 FEET BELOW GROUND SURFACE) COLLECTED THROUGH NOVEMBER 2022. KE-204 IS A WELL SCREENED GREATER THAN 15 FEET BELOW GROUND SURFACE, BUT HAS BEEN INCLUDED IN THE 20 µg/l BOUNDARY LINE BECAUSE OF UNCERTAINTY ON THE SHALLOW GROUNDWATER CONCENTRATIONS WITHIN THE IMMEDIATE VICINITY OF THIS WELL.

Phase II Comprehensive Site Assessment
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

GROUNDWATER ELEVATION CONTOUR PLAN
(November 2025)

Project 045163 | June 2026 | Fig. 8-10

B:\Private\04516\#Drafting\04516-3\Phase V SRs & RMRs\045163-06 Gw

LEGEND:

- MONITORING WELL INSTALLED BY TRC, 2014
- BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- KE ○ MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- NBD ○ BORING INSTALLED BY NOBIS 2014
- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED BY GEI, MAY 2022, MARCH 2024, & OCTOBER 2024
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- WELLS IN GRAY HAVE BEEN DESTROYED OR DECOMMISSIONED
- DISPOSAL SITE BOUNDARY BASED ON PCE CONCENTRATIONS IN SHALLOW OVERBURDEN AND BEDROCK GROUNDWATER (DASHED WHERE INFERRED)
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- EXTENT OF PCE CONCENTRATION IN SHALLOW OVERBURDEN GROUNDWATER GREATER THAN OR EQUAL TO 1 µg/l
- µg/l = MICROGRAMS PER LITER
- 9.03 GROUNDWATER ELEVATION MEASURED 2/02/2026 (DATUM NAVD88)
- —8— GROUNDWATER ELEVATION CONTOUR, FEET
- —x—x— CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
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GENERAL NOTES:

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3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC. OR INFORMATION PROVIDED BY KLEINFELDER.
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0 150 300

SCALE, FEET

Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

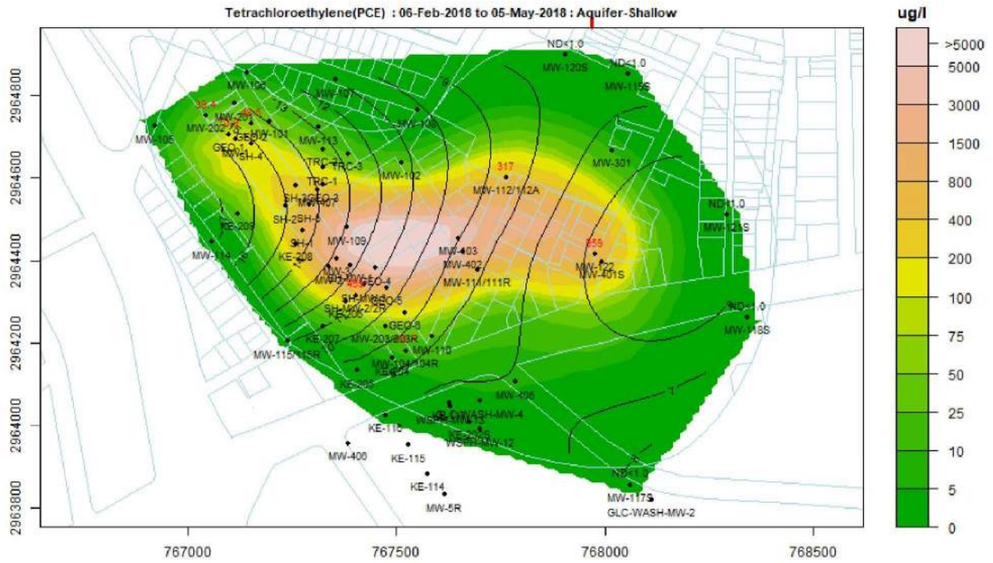
UniFirst Corporation
Wilmington, Massachusetts

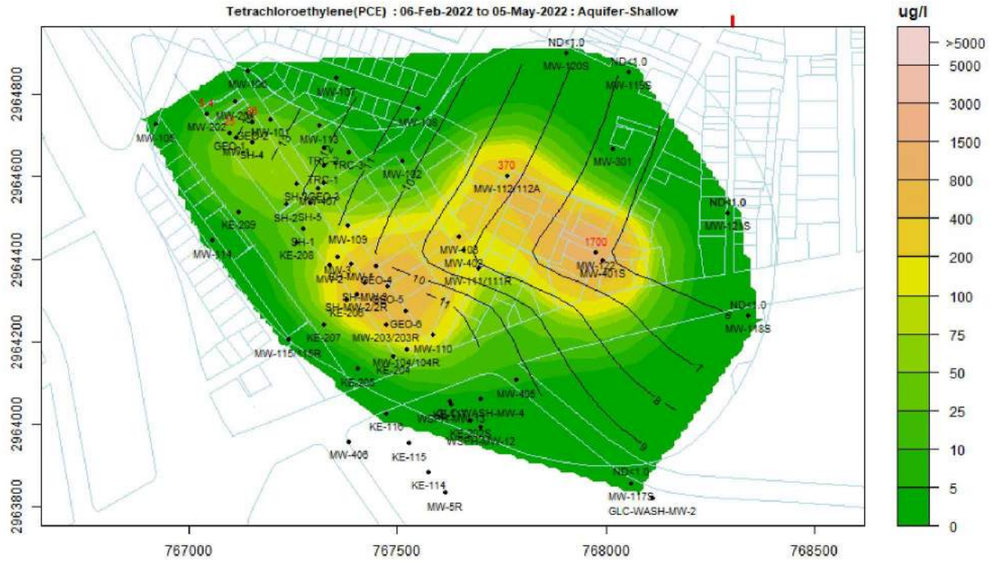
GEI Consultants

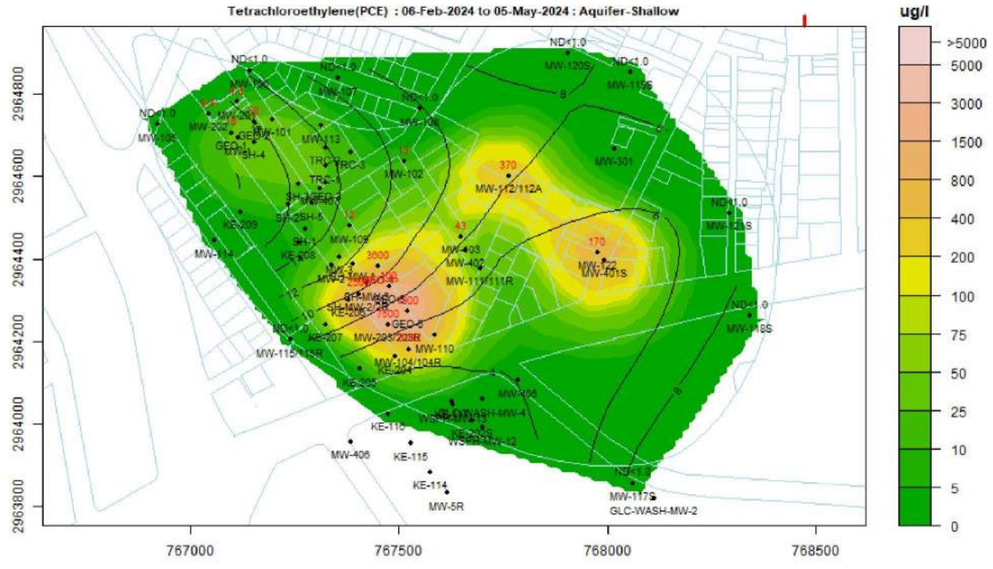
GROUNDWATER ELEVATION CONTOUR PLAN (February 2026)

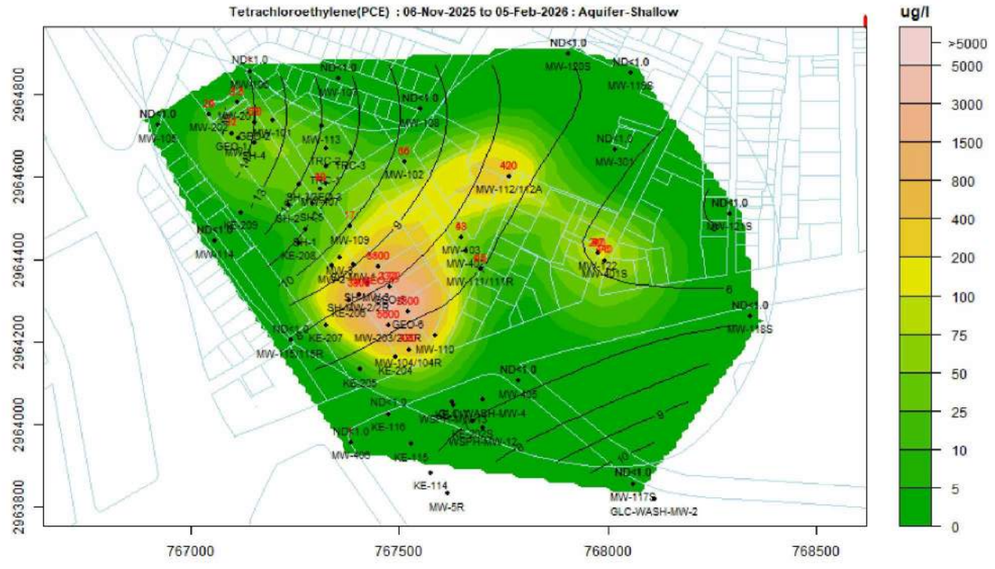
Project 045163 | June 2026 | Fig. 8-11

B:\Private\04516\#Drafting\04516-3\Phase V SRs & RMRs\045163-06 Gw









Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	CONSTRUCTION DEWATERING IMPACTS TO SHALLOW OVERBURDEN GROUNDWATER PCE PLUME
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 8-12

CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-15.dwg - 6/12/2026

LEGEND:

DISPOSAL SITE BOUNDARY
(DASHED WHERE INFERRED)

PERMANENT SOLUTION STATUS:

PERMANENT SOLUTION WITH CONDITIONS
PARTIAL STATEMENT SUBMITTED

PERMANENT SOLUTION WITHOUT CONDITIONS
PARTIAL STATEMENT SUBMITTED

ACTIVE EXPOSURE PATHWAY MITIGATION MEASURE

NOTES:

1. SITE FEATURES ARE APPROXIMATE.
2. STREET AND PROPERTY LINES FROM MASSGIS DATABASE.

0 150 300
SCALE, FEET

Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

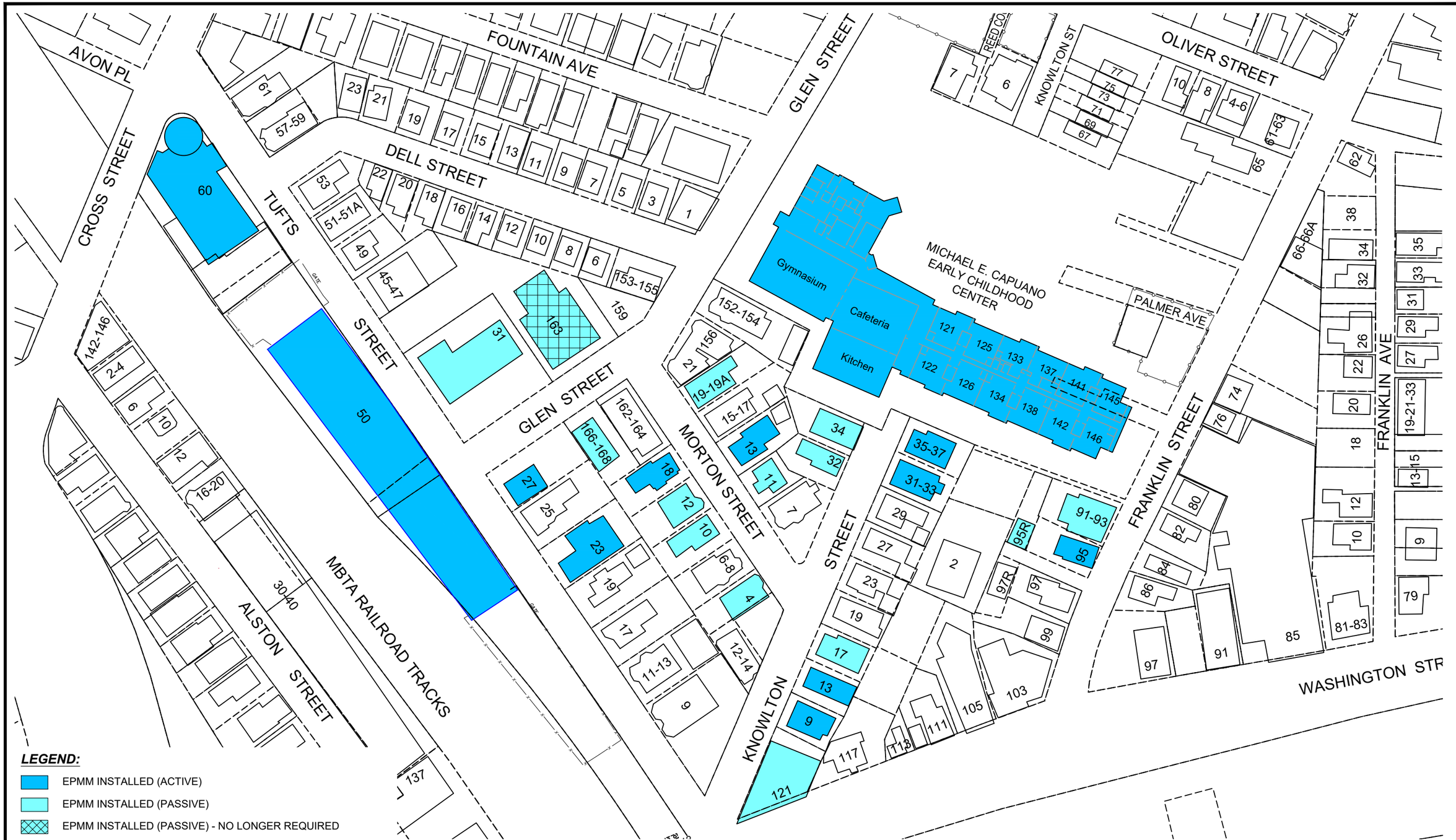
UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

PERMANENT SOLUTION STATUS

Project 045163 | June 2026 | Fig. 9-1

CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-10.dwg - 6/12/2026



LEGEND:

- EPMM INSTALLED (ACTIVE)
- EPMM INSTALLED (PASSIVE)
- EPMM INSTALLED (PASSIVE) - NO LONGER REQUIRED

NOTES:

1. EPMM = EXPOSURE PATHWAY MITIGATION MEASURE.
2. SITE FEATURES ARE APPROXIMATE.
3. STREET AND PROPERTY LINES FROM MASSGIS DATABASE.

0 100 200

SCALE, FEET

Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

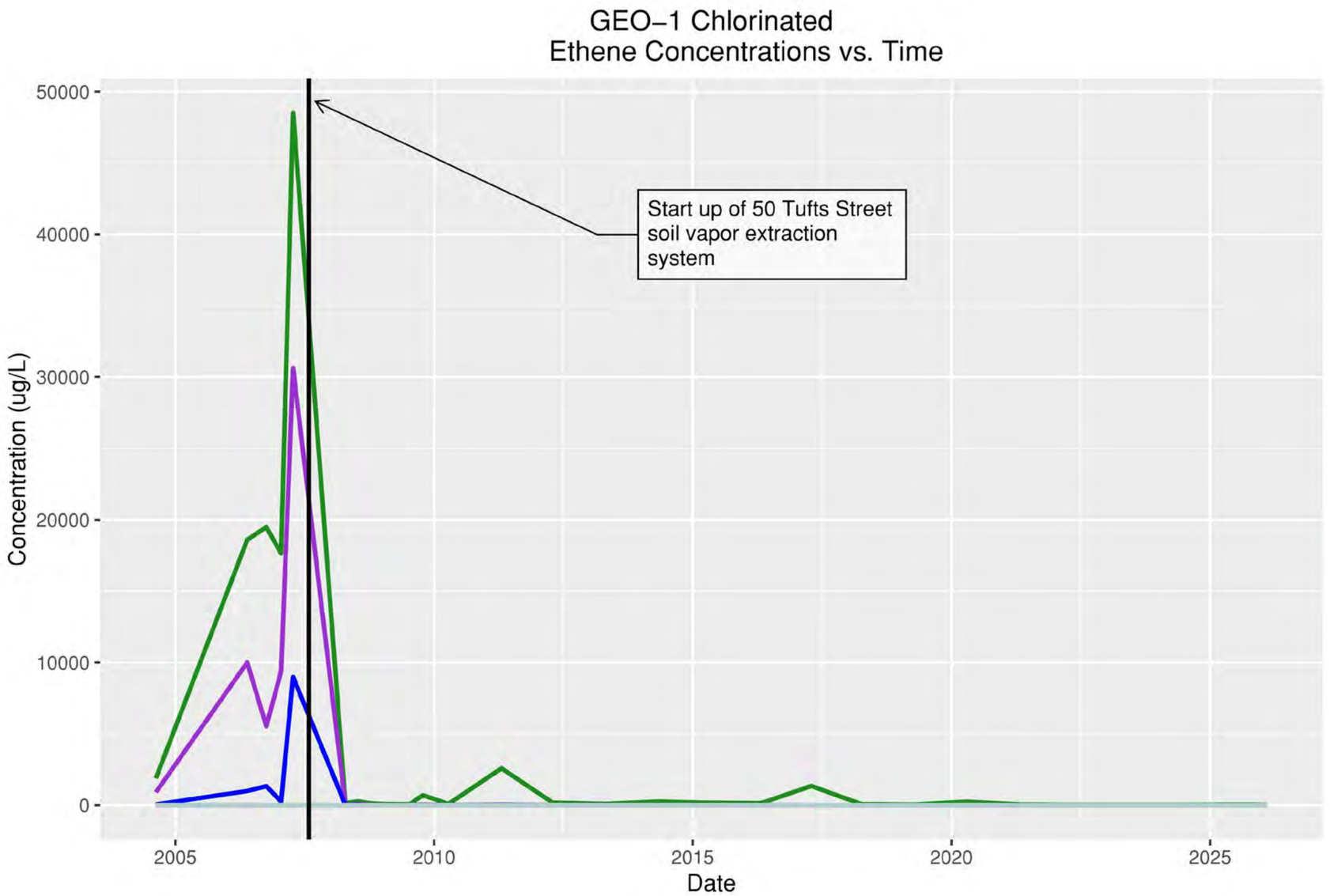
GEI Consultants

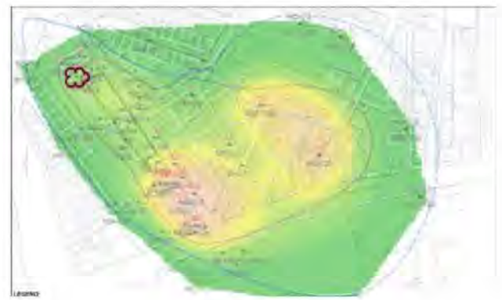
Project 045163

EPMM INSTALLATION PROGRESS

June 2026 Fig. 9-2

CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-10.dwg - 6/12/2026

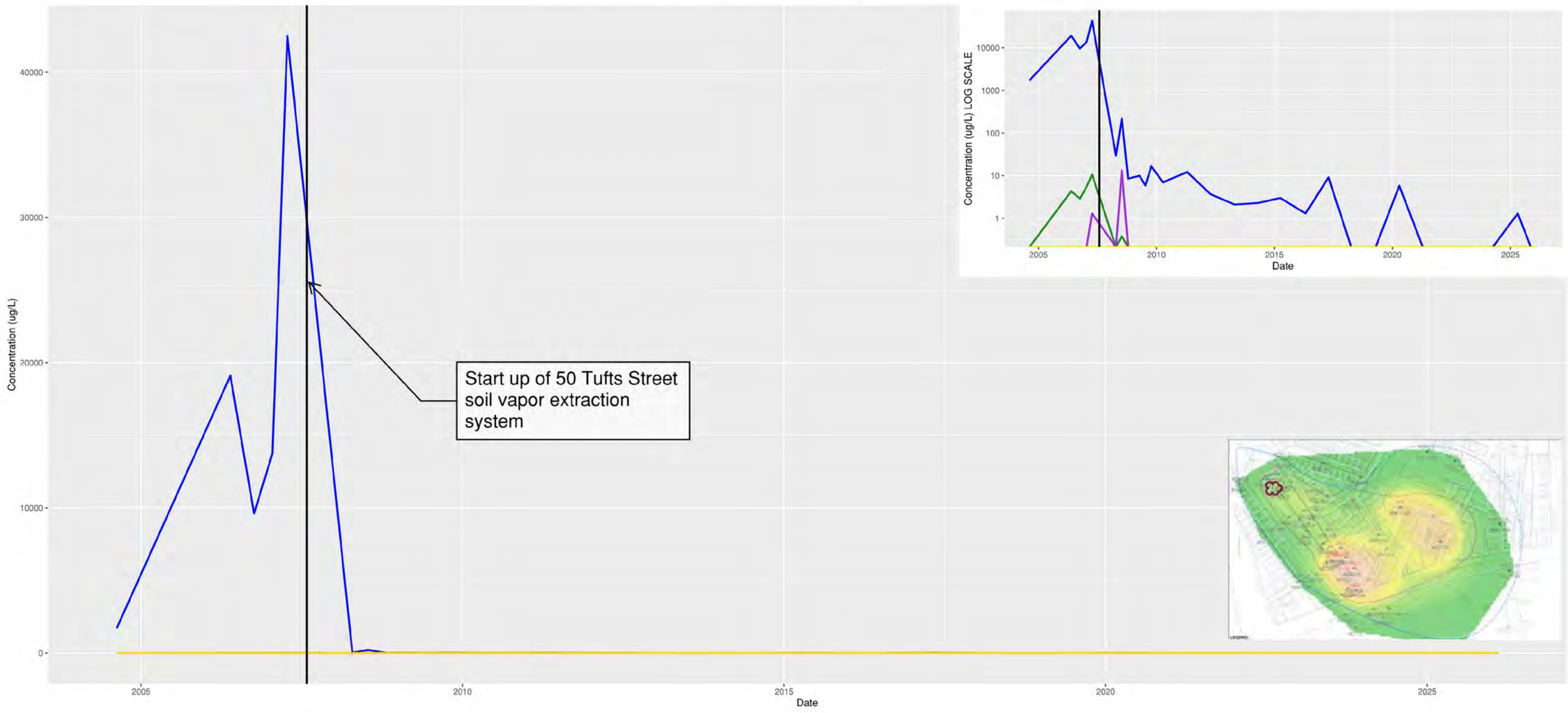




Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	GEO-1 PCE vs. TIME
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 11-1

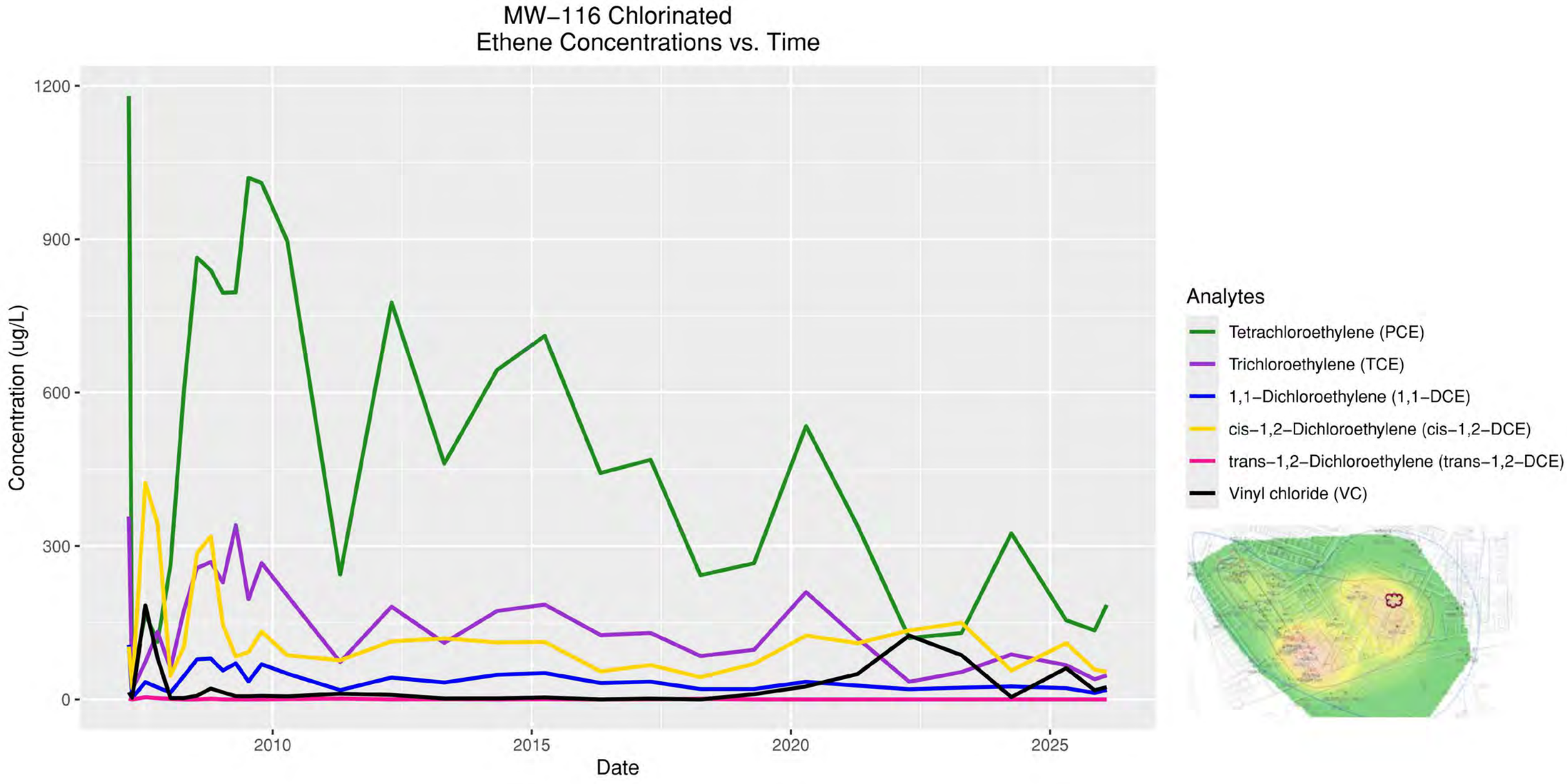
CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-17.dwg - 6/13/2026

GEO–1 Chlorinated
Ethane Concentrations vs. Time

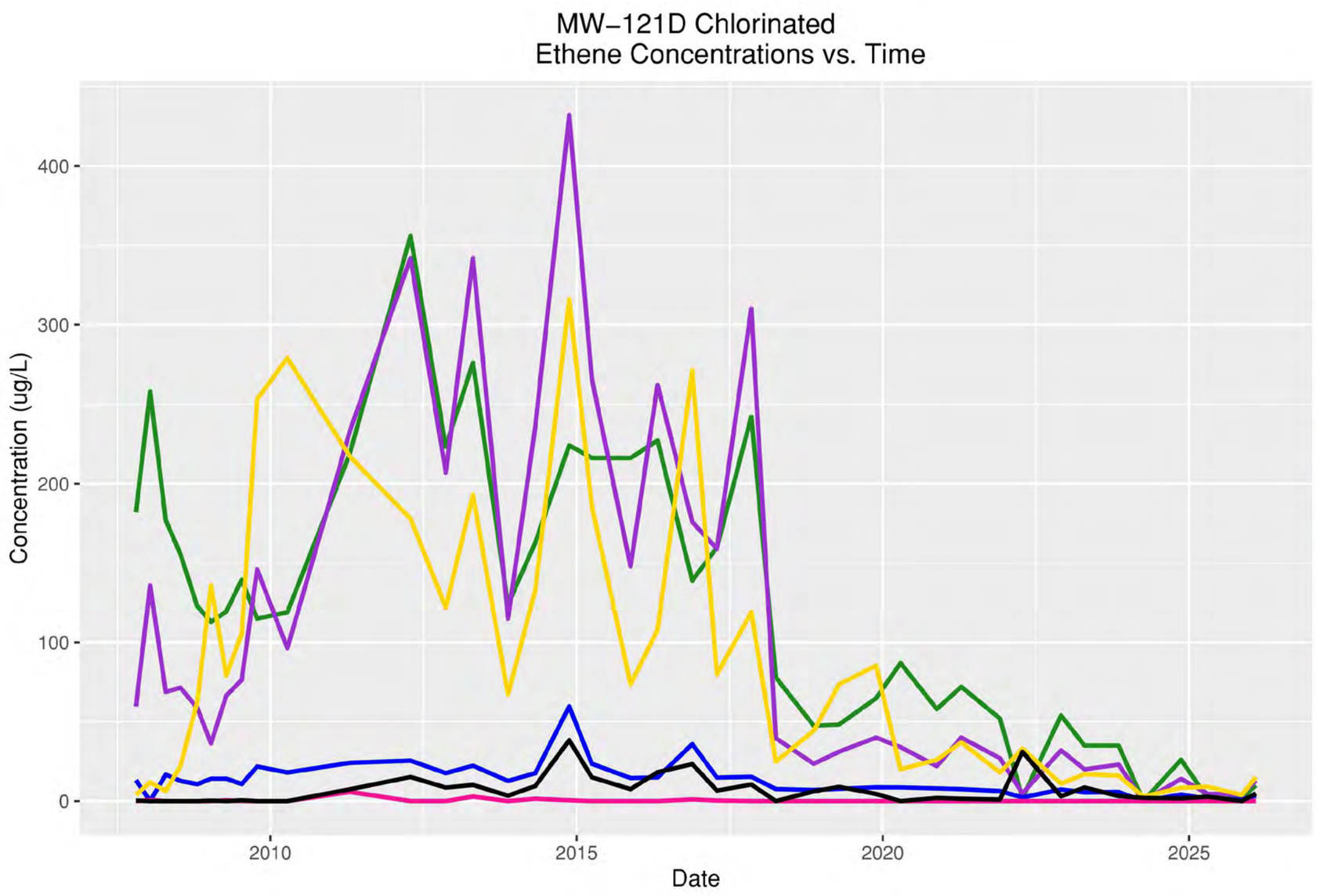


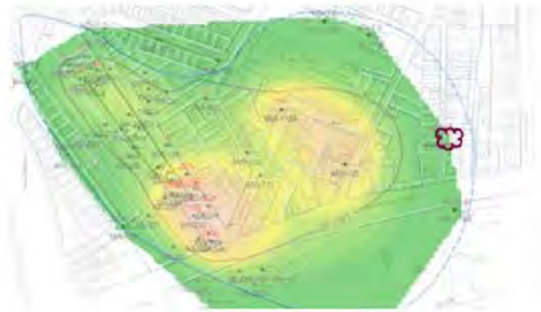
Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts		GEI Consultants	GEO-1 TCA vs. TIME
UniFirst Corporation Wilmington, Massachusetts		Project 045163	June 2026 Fig. 11-2

CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-17.dwg - 6/13/2026



Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	MW-116 PCE vs. TIME
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 11-3

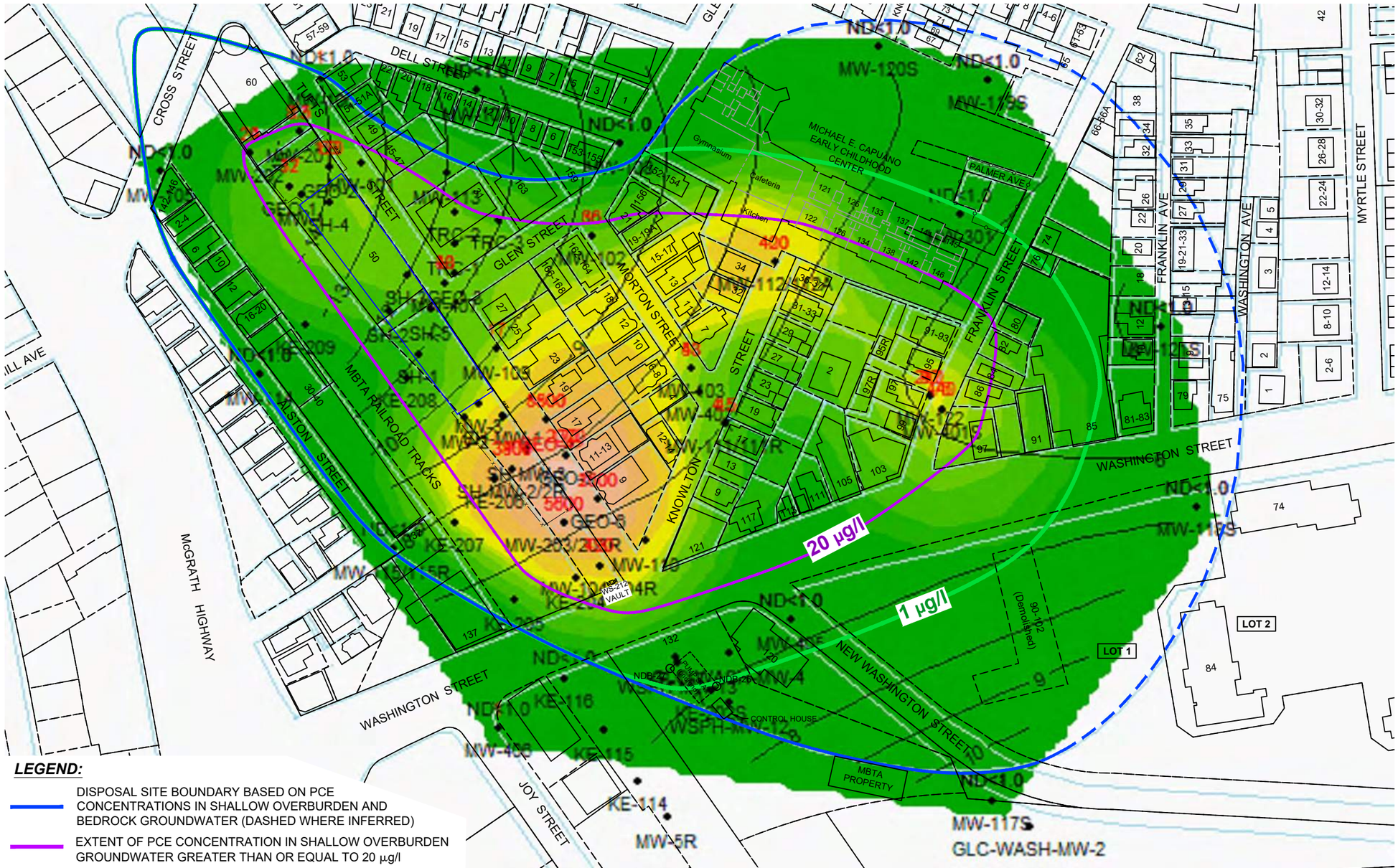


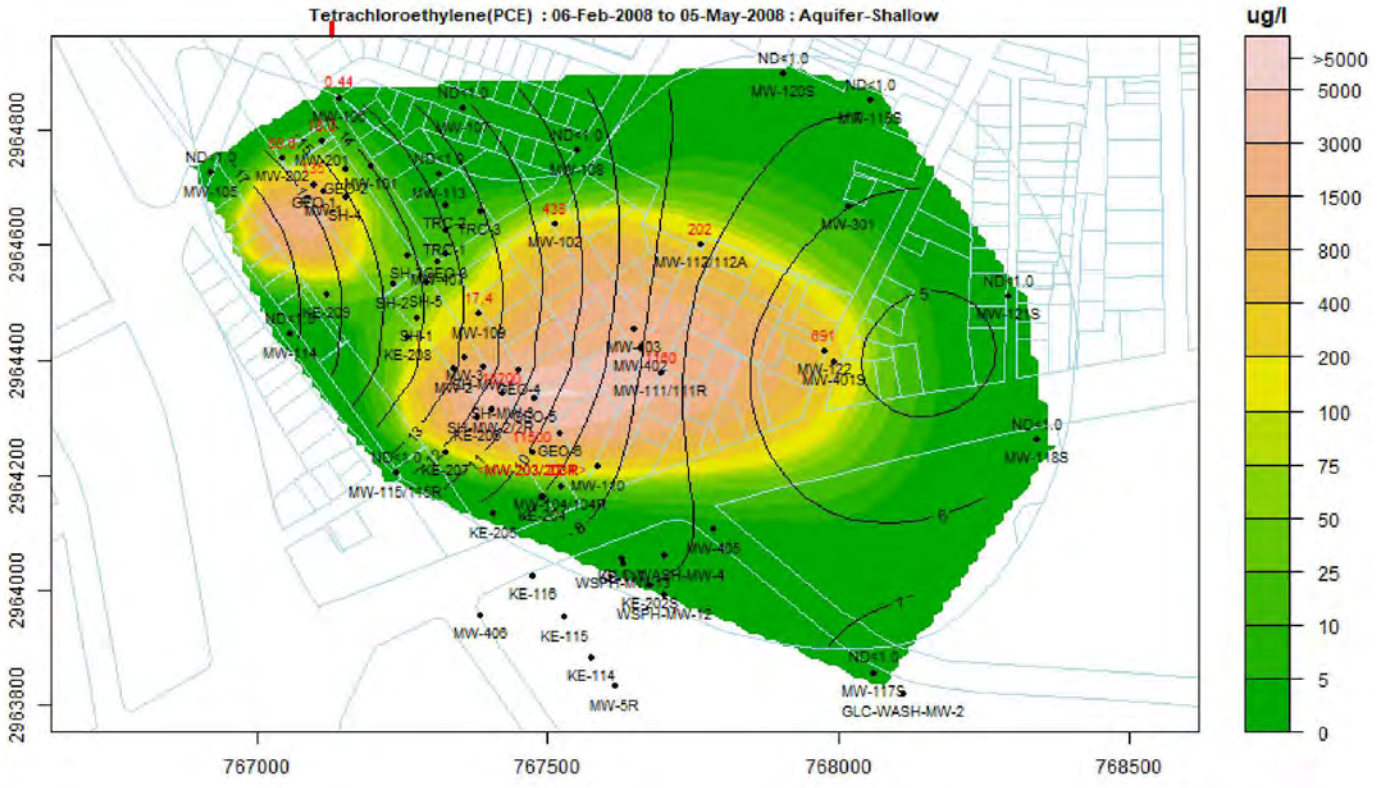


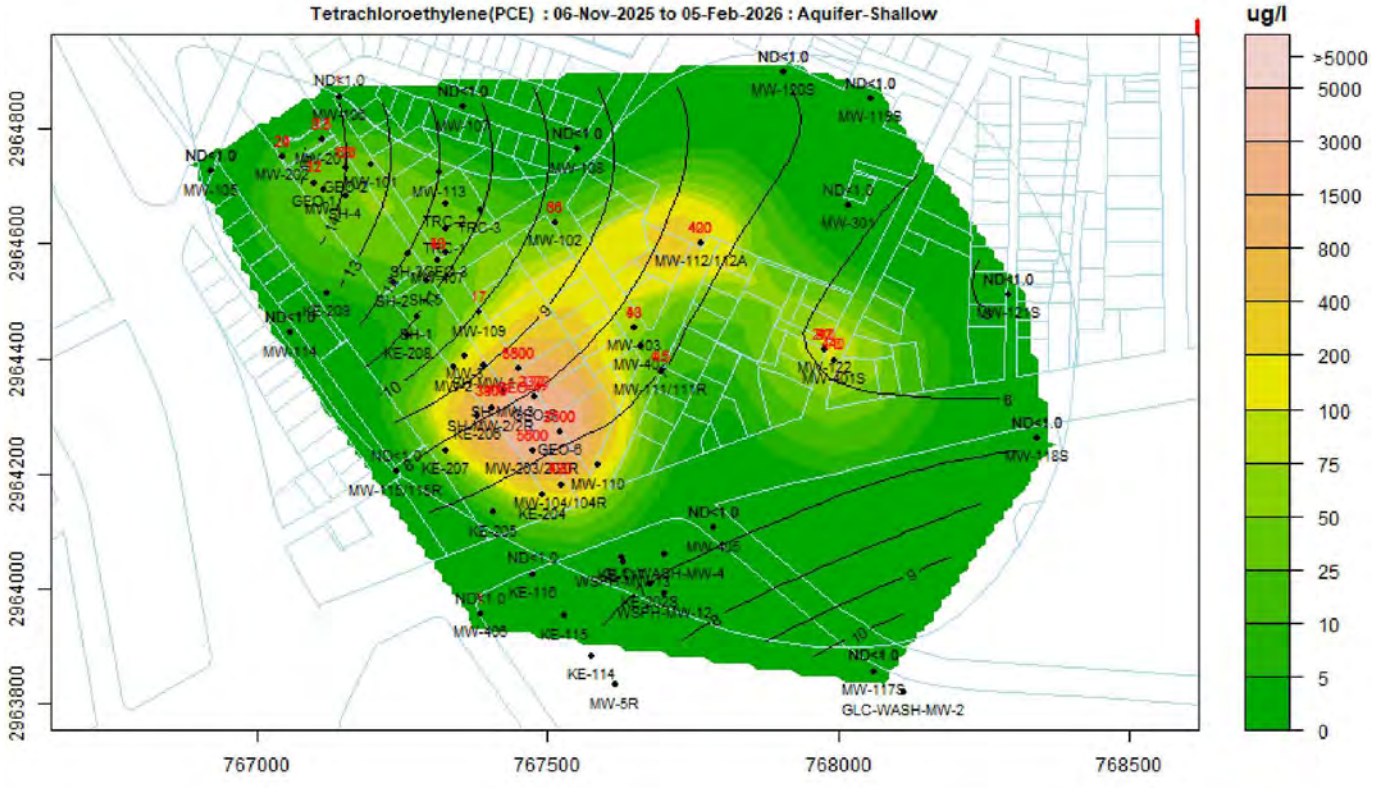
Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	MW-121D PCE vs. TIME
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 11-4

CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-17.dwg - 6/13/2026

TETRACHLOROETHYLENE (PCE): 06-Nov-2025 to 05-Feb-2026: Aquifer-Shallow

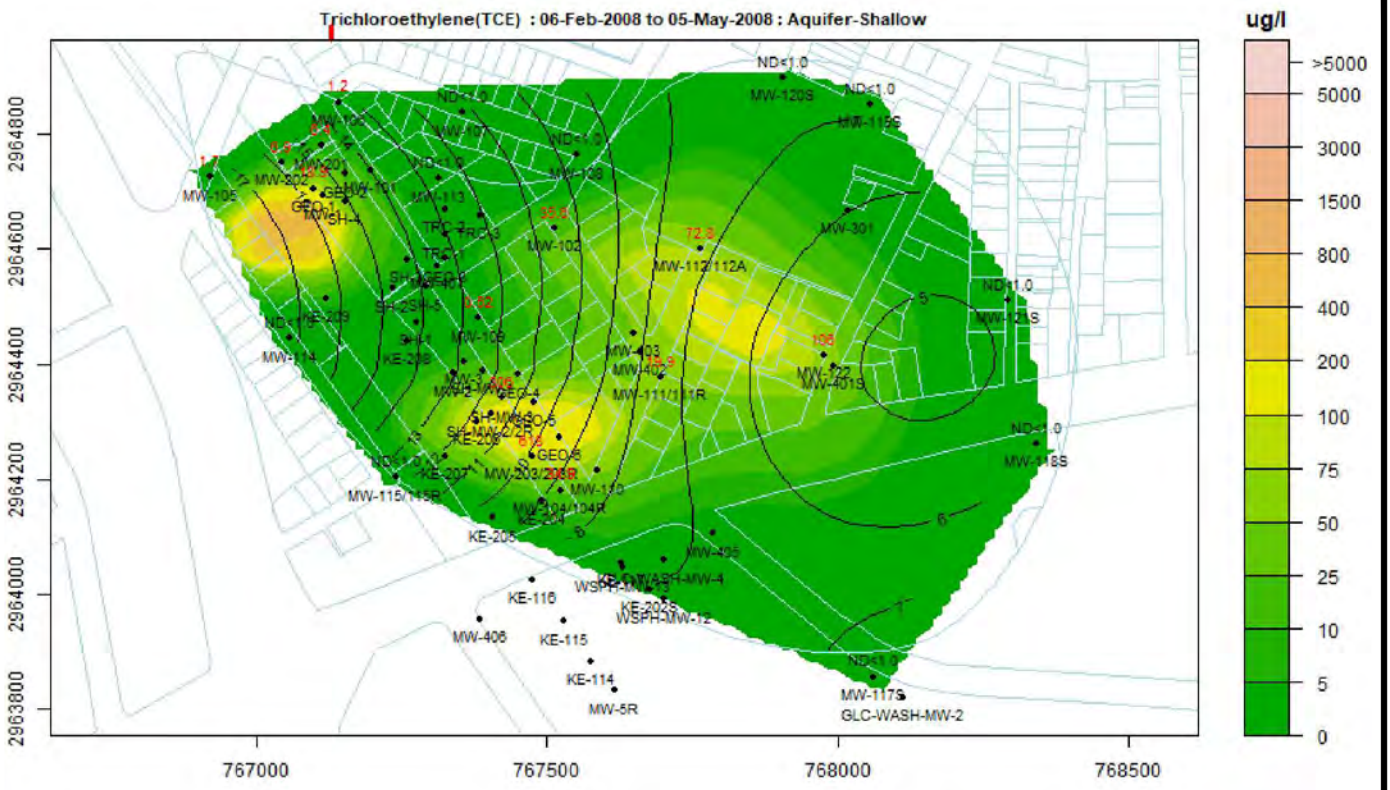


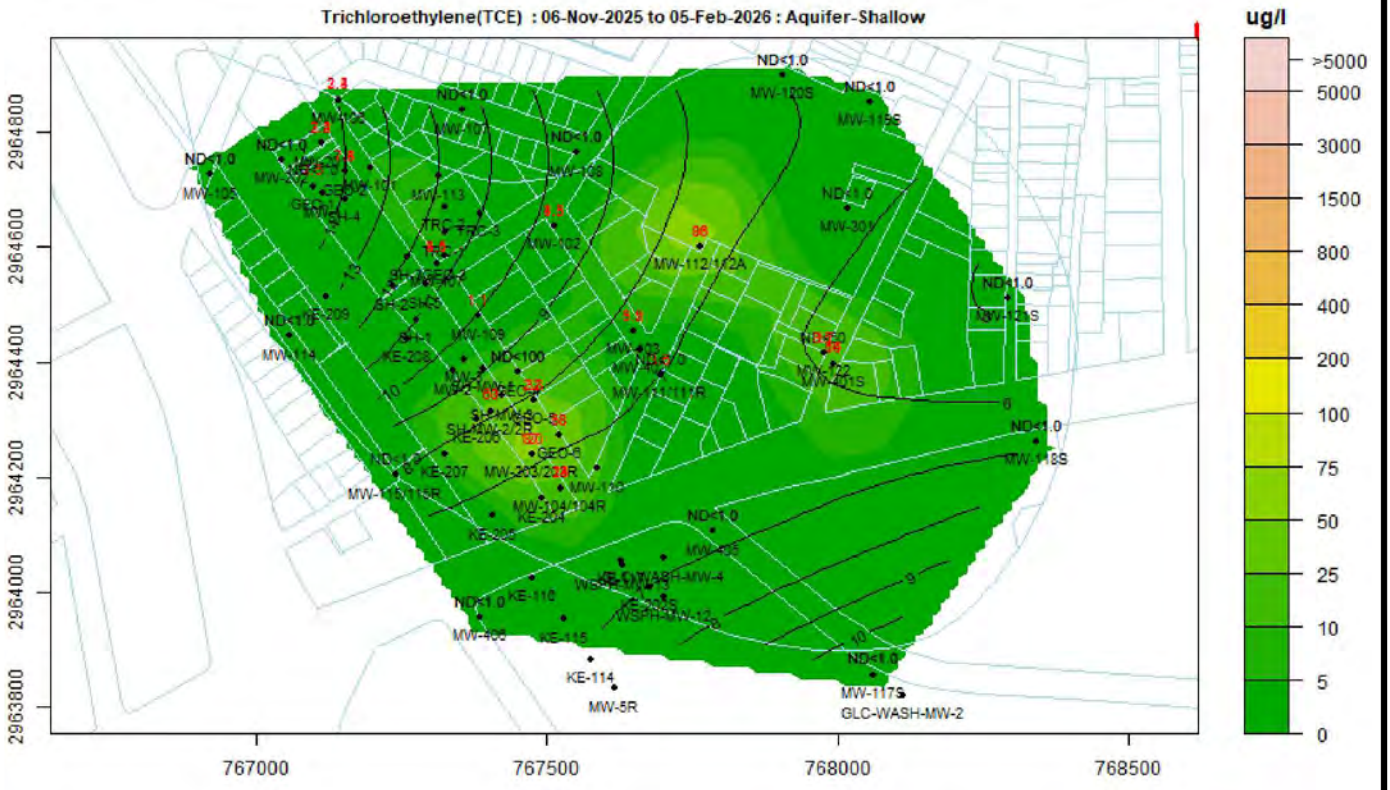




Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	PCE PLOTS 2008 and 2025-2026
UniFirst Corporation Wilmingron, Massachusetts	Project 045163	June 2026 Fig. 11-6

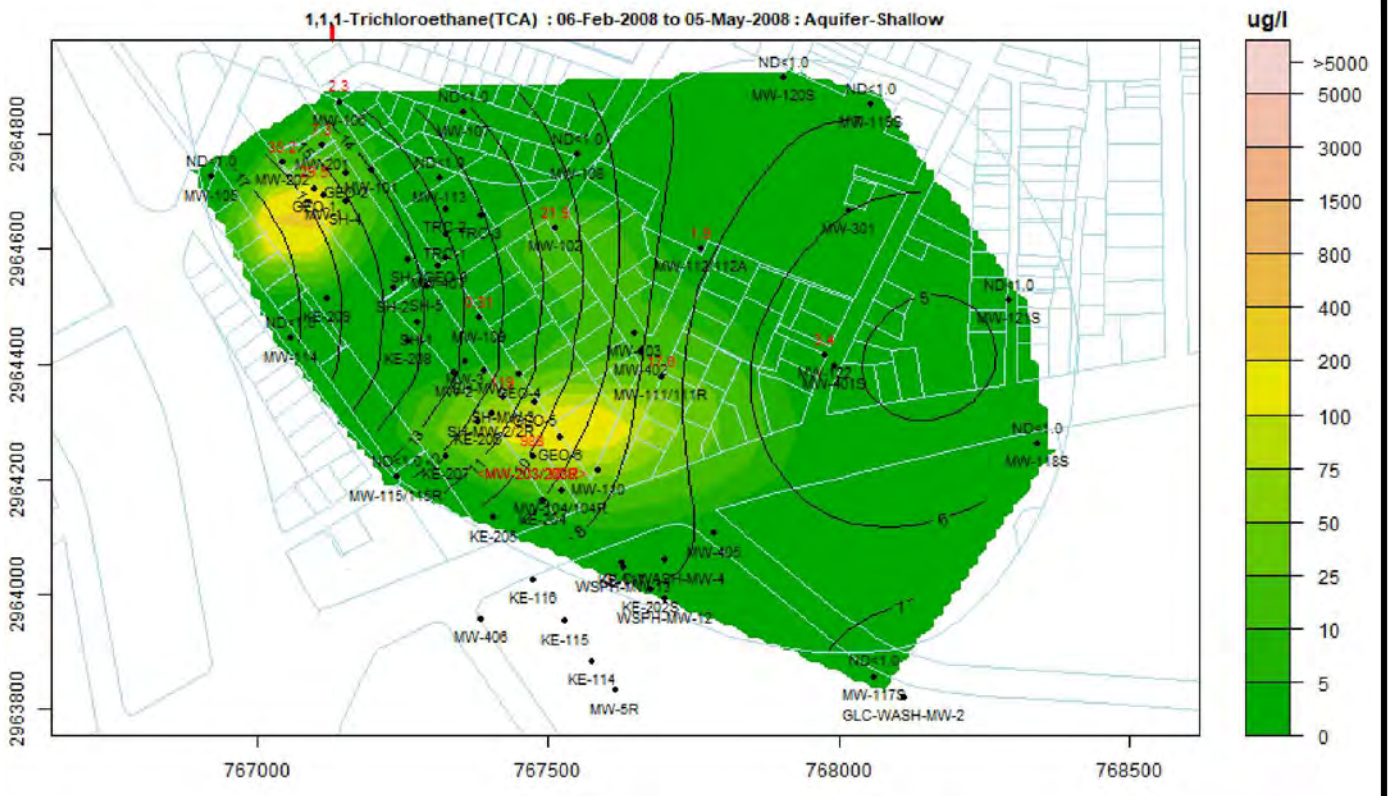
CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-12.dwg - 6/13/2026





Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	TCE PLOTS 2008 and 2025-2026
UniFirst Corporation Wilmingron, Massachusetts	Project 045163	June 2026 Fig. 11-7

CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-12.dwg - 6/13/2026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768500
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MW-119S
MW-301
MW-121S
MW-118S
MW-117S
GLC-WASH-MW-2
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MW-406
MW-405
KE-116
KE-115
KE-114
KE-205
KE-207
KE-208
MW-114
MW-115/115R
MW-111/111R
MW-112/112A
MW-104/104R
MW-103/103R
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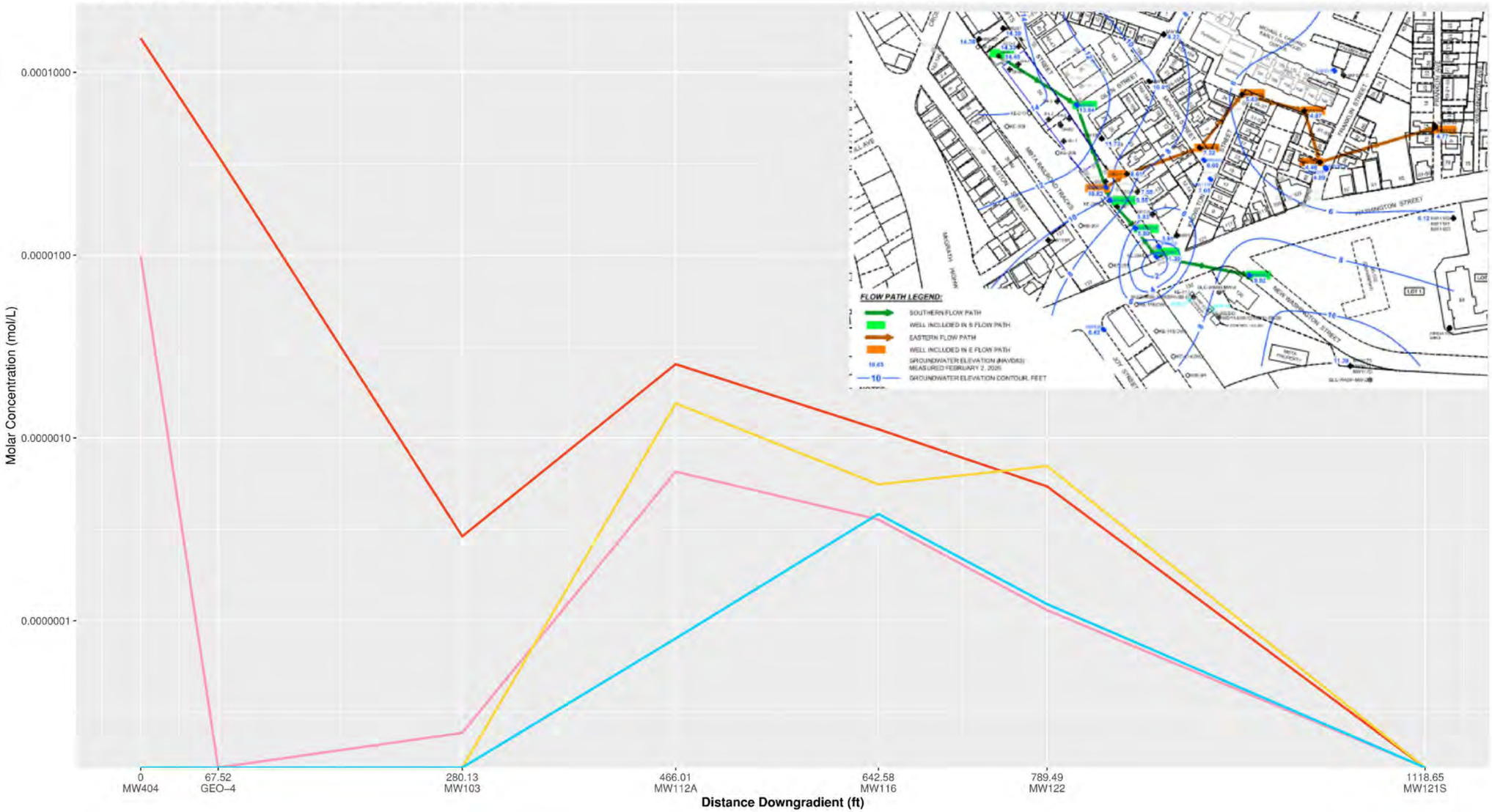
Molar Concentration Along an Eastern Flow Path – February 2026



Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	MOLAR PATH
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Fig. 11-9

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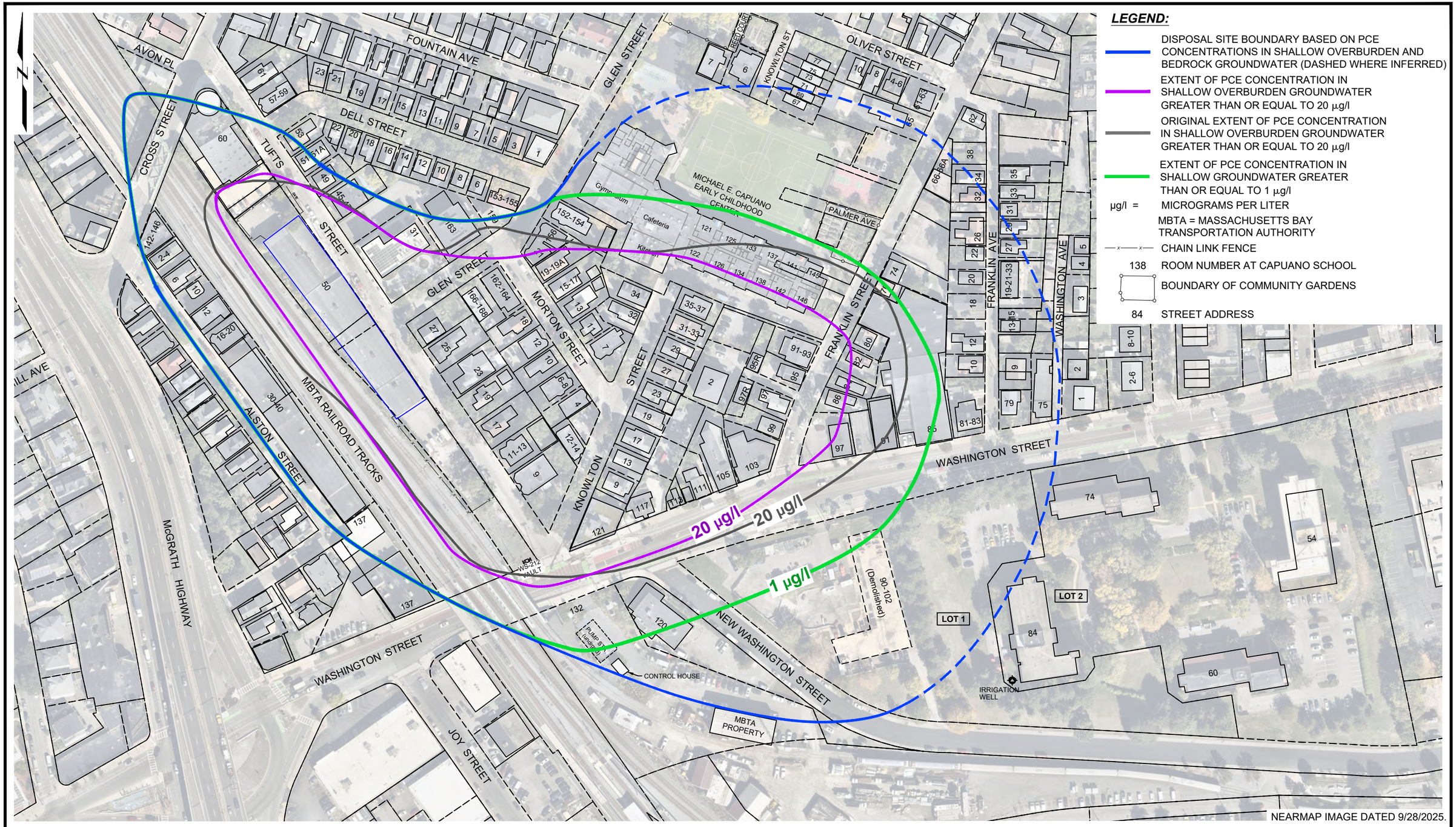

NOTES:

1. NEARMAP IMAGE DATED 9/28/2025.
2. STREET AND PARCEL BOUNDARIES FROM MASSGIS DATABASE.

0 150 300
SCALE, FEET

Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

ORIGINAL AND UPDATED PCE CONTOUR PLAN

Project 045163 | June 2026 | Fig. 12-1

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Appendix A Notice of Audit Findings/Notice of Noncompliance

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Northeast Regional Office • 150 Presidential Way Woburn, MA 01801 • 978-694-3200

Maura T. Healey
Governor

Kimberley Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

Certified Mail #9589 0710 5270 2598 8877 32

December 12, 2024

UniFirst Corporation
68 Jonspin Road
Wilmington, MA 01887

RE: Somerville
50 Tufts Street Disposal Site
RTN 3-0023246
NON-NE-00019585

Attention: Catherine Malagrida, Environmental Compliance Manager

NOTICE OF AUDIT FINDINGS
NOTICE OF NONCOMPLIANCE
TERMINATION OF REMEDY OPERATION STATUS

Dear Catherine Malagrida:

The Massachusetts Department of Environmental Protection ("MassDEP") has conducted a comprehensive audit of response actions taken to address the release of oil and/or hazardous material ("OHM") at the location identified above ("the Site"), including the Phase II Comprehensive Site Assessment, the Phase III Remedial Action Plan, and the Phase IV Remedy Implementation Plan. In particular, the audit focused on the Remedy Operation Status ("ROS") and the associated Phase V ROS Status and Remedial Monitoring Report submitted on August 7, 2024. The objective of the audit was to determine if response actions meet the requirements of Massachusetts laws and regulations, including Massachusetts General Law Chapter 21E ("M.G.L. c. 21E") and the Massachusetts

This information is available in alternate format. Please contact MassDEP at 617-292-5500.
TTY# MassRelay Service 1-800-439-2370
MassDEP Website: www.mass.gov/dep

Printed on Recycled Paper

Contingency Plan ("MCP"), 310 CMR 40.0000. This Notice informs you (as used in this notice, "you" refers to UniFirst Corporation) of the results of MassDEP's audit.

FINDINGS

As a result of the audit, pursuant to its authority under 310 CMR 40.0100(1), MassDEP hereby determines that the ROS submittal and associated Licensed Site Professional ("LSP") Opinion are not in compliance with M.G.L. c. 21E and the MCP. Specifically, you have failed to achieve and maintain the performance standards for ROS as set forth in 310 CMR 40.0893(2). Therefore, pursuant to its authority under 310 CMR 40.0100(1), and in accordance with 310 CMR 40.0893(6), MassDEP hereby terminates the ROS for this Site. Violations were identified that require additional actions to be taken under the supervision of a LSP in order to come into compliance with the MCP. The activities that are in noncompliance and the actions MassDEP wants you to take to come into compliance are described in the attached Notice of Noncompliance (Attachment A). The Notice of Noncompliance describes: (1) each activity identified during the audit which is in noncompliance; (2) the requirements violated; (3) the actions MassDEP now wants you to take to come into compliance; and (4) the deadline for taking such action.

POST-AUDIT COMPLETION STATEMENT REQUIRED

You do not need MassDEP approval to take the actions specified. However, to avoid further enforcement actions, you must correct the violations and submit via eDEP a Post-Audit Completion Statement in accordance with 310 CMR 40.1170. A copy of the Post-Audit Completion Statement (BWSC111) can be found at https://www.mass.gov/lists/waste-site-cleanup-forms.

LICENSED SITE PROFESSIONAL

A copy of this letter has been sent to Ileen Gladstone, LSP #9719, the LSP-of-Record for the Site. However, you, not your LSP, are responsible for responding to this Notice of Noncompliance and correcting the violations identified therein. You may retain the services of any currently licensed LSP to fulfill this obligation.

LIMITATIONS & RESERVATION OF RIGHTS

MassDEP's findings were based upon the accuracy and certainty of the information reviewed during the audit. These findings do not: (1) preclude future audits of past, current, or future actions at the Site; (2) apply to actions or other aspects of the Site that were not reviewed in the audit; (3) in any way constitute a release from any liability, obligation, action or penalty under M.G.L. c. 21E, 310 CMR 40.0000, or any other laws, regulations, or requirements. MassDEP retains authority to take or arrange, or to require, any Responsible Party or Potentially Responsible Party to perform any response actions authorized by M.G.L. c. 21E, which MassDEP deems necessary to protect health, safety, public welfare, or the environment.

If you have any questions regarding this Notice, contact Andrew Friedmann at 617-894-3543 or andrew.friedmann@mass.gov. Please reference the Release Tracking Number ("RTN") 3-0023246 and Enforcement Number ENF00019585 in any future correspondence to MassDEP regarding the site.

Sincerely,

Andrew Friedmann for

Eric Worrall
Regional Director
Bureau of Waste Site Cleanup

Attachments: Attachment A – Notice of Noncompliance
Attachment B – Audit Memorandum
Attachment C – Site Figures

E-copy
Somerville, Board of Health, (health_webcontact@somervillema.gov)
Ileen Gladstone, LSP (igladstone@geiconsultants.com)

NERO/Data Entry: AUDCOM/NAFNON; ROS/ACTAUD; ROS/INVSUB, C&E/NON

Attachment A

NOTICE OF NONCOMPLIANCE

Somerville, 50 Tufts Street

Release Tracking Numbers 3-0023246

NON-NE 00019585

ENTITY IN NONCOMPLIANCE

UniFirst Corporation ("UniFirst")

LOCATION WHERE NONCOMPLIANCE OCCURRED OR WAS OBSERVED

50 Tufts Street, Somerville

DATE WHEN NONCOMPLIANCE OCCURRED OR WAS OBSERVED

August 7, 2024, the date of receipt for the Phase V ROS Status Report No. 26 and Remedial Monitoring Report No. 41.

DESCRIPTION OF NONCOMPLIANCE

1. **Violation of 310 CMR 40.0893(6)** – Termination of Remedy Operation Status

Pursuant to 310 CMR 40.0893(6)(a)1, ROS shall terminate if the person providing the ROS Opinion fails to meet the requirements of 310 CMR 40.0893(2).

The Performance Standards for ROS established in 310 CMR 40.0893(2) are not being met and UniFirst has failed to terminate the ROS Opinion. The Performance Standards that have not been met at the Site are:

- 310 CMR 40.0893(2)(b), which requires that the remedial system, mitigation measure, remedial program or combination thereof shall be adequately designed in accordance with 310 CMR 40.0870 to achieve a Permanent Solution.

- 310 CMR 40.0893(2)(d), which requires that each Source of OHM Contamination shall be eliminated or controlled in accordance with 310 CMR 40.1003(5)(a) and 310 CMR 40.1003(5)(c), and
- 310 CMR 40.0893(2)(e), which requires that, in order to maintain ROS, plumes of dissolved OHM in groundwater, and vapor-phase OHM in the Vadose Zone are stable or contracting or otherwise controlled or mitigated to the extent feasible.

Figures 1 and 2 in Attachment C illustrate the disposal site boundary as depicted in the August 2024 Phase V ROS Status Report and the July 2008 Phase II Comprehensive Site Assessment, respectively. Figure 1 contains additional information including the approximate location of the Washington Street bridge and levels of tetrachloroethylene ("PCE") observed in this area.

Monitored Natural Attenuation ("MNA"), Soil Vapor Extraction ("SVE") and vapor intrusion mitigation systems were selected as the remedial program for the Site. As defined in 310 CMR 40.0006, MNA acts to "reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater". The groundwater plume has been monitored since August 2011. After thirteen years, the remedial design has not resulted in a reduction in contaminants in groundwater. As shown in Appendix C, Figures 1 and 2, the extent of the groundwater contamination has not substantively changed in the 16 years since it was characterized in the Phase II Report. These observations suggest that there has not been a reduction in mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater, indicating the selected remedy (MNA) is not succeeding in achieving a Permanent Solution.

One reason for the persistent elevated PCE concentrations is the lack of adequate control of sources of Chlorinated Volatile Organic Compounds ("cVOCs") at the Site. As defined in 310 CMR 40.0006, source of OHM Contamination means, in part, a deposit of OHM into the environment containing sorbed OHM or Nonaqueous Phase Liquid ("NAPL") that is contaminating surrounding environmental media via dissolution processes. The Phase IV Remedy Implementation Plan submitted to MassDEP on August 10, 2009, states that Dense Non Aqueous Phase Liquid ("DNAPL") is likely present: (1) at various locations beneath the Property building footprint, (2) north of the Property building extending beneath paved areas, (3) east of the Property building extending across Tufts Street, (4) south of the

Property building extending beneath paved areas, and (5) west of the building footprint extending to the adjacent property. Dissolution of cVOCs from DNAPL into Site groundwater can render MNA ineffective, resulting in increased groundwater concentrations. This phenomenon has been observed since 2015 at monitoring well MW-122 where both PCE and trichloroethylene ("TCE") concentrations have been increasing since July 2008.

Another line of evidence that sources of cVOCs are not adequately controlled is the continued migration of contamination from the Property to the vicinity of the Washington Street Bridge area. PCE concentrations measured in this area ranging from 1,660-14,000 µg/L have been observed in a monitoring well, an excavation trench, and an inlet chamber that receives groundwater from a Washington Street groundwater collection system that was installed by the Massachusetts Bay Transportation Authority ("MBTA"). These observations, in addition to the unchanged extent of the plume over 16 years also indicate that the groundwater plume is not stable or contracting or otherwise controlled or mitigated.

2. Violation of 310 CMR 40.0835(4)(f) – Nature and Extent of Contamination

Pursuant to 310 CMR 40.0835(4)(f), the Phase II Report shall provide the Nature and Extent of Contamination, including a characterization of the nature, and vertical and horizontal extent of oil and/or hazardous material in the environment.

Assessment activities from the Washington Street Bridge area, located near the intersection of Washington Street and Tufts Street (Attachment C, Figure 1), indicate that PCE levels in groundwater above 20-50 µg/l extend beyond the contour lines presented in the Phase II and Phase V ROS Reports (Attachment C, Figures 1 and 2). In October 2008, up to 3,680 µg/l of PCE was detected within storm drain catch basins in the Washington Street Bridge area during dry weather conditions. Groundwater was observed entering the catch basins. In 2019, PCE up to 1,660 µg/l was detected in groundwater during dewatering activities of a trench in the Washington Street Bridge area (see Release Abatement Measure Status Report No. 2, submitted on May 15, 2020, for RTN 3-34742). The trench, approximately ≤15 feet below the ground surface and within the groundwater table, was excavated for the installation of a new storm drain system. Data collected in 2020 and 2021 shows concentrations of PCE up to 3,200 µg/l in groundwater infiltrating into the new Washington Street

Bridge groundwater collection system, and up to 470 µg/l in a storm drain manhole directly downgradient to the Washington Street Bridge area.[1]

This data does not support the characterization of Nature and Extent or the Conceptual Site Model presented in the 2008 Phase II Comprehensive Site Assessment (see Attachment C, Figure 2) or the disposal site depicted in the latest Phase V ROS Status Report, No. 26 (February 2024) (see Attachment C, Figure 1). For example, the PCE groundwater concentration isopleths indicate that concentrations in the Washington Street Bridge area do not exceed 20 ug/l in spite of recent data that show up to 3,200 µg/l PCE, as stated above.

Based on the data described above, the Phase II underestimated the level and extent of PCE in groundwater at the Site.

ACTIONS TO BE TAKEN AND DEADLINE FOR TAKING SUCH ACTIONS

1. Actions are required to correct the violations identified herein. In order to return the Site to compliance, submit the following documents to MassDEP through eDEP within the specified deadlines:
   - By **February 12, 2025**, submit a Tier Extension in accordance with 310 CMR 40.0560(7).
   - By **April 14, 2026**, submit a revised Phase II Comprehensive Site Assessment prepared in accordance with the requirements set forth in 310 CMR 40.0835 including an updated Conceptual Site Model and site boundary that depicts the full nature and extent of the release and that is consistent with the definition of a Disposal Site Boundary in 310 CMR 40.0006. The Phase II Comprehensive Site Assessment must present groundwater data obtained from the utility trench in 2019 and 2020 and modify the concentration gradient lines presented in previous Phase V ROS Status Reports to reflect this new data.
   - **By June 12, 2026**, submit a revised Phase III Remedial Action Plan in accordance with the requirements set forth in 310 CMR 40.0850. The Phase III Remedial Action Plan must consider technological advances made in the treatment of cVOCs in soil and groundwater

[1] Data presented in email sent by LSP Michael Clark (representative of MBTA) to Ilene Gladstone (LSP representing UniFirst) on August 6, 2021. Data submitted to MassDEP in a November 2, 2024 email from LSP Michal Clark.

after the submittal of the initial Phase III Plan in 2008. In addition to the requirements of 310 CMR 40.0860, the feasibility of achieving a Temporary or Permanent Solution at the Site must include the benefits of reducing cVOCs in the impacted neighborhoods and the Washington Street Bridge area.

- **By August 12, 2026**, submit a revised Phase IV Remedy Implementation Plan in accordance with the requirements set forth in 310 CMR 40.0874.
- By **December 14, 2026**, in accordance with the provisions of 310 CMR 40.40.0893(6)(e), a Permanent or Temporary Solution must be achieved for the Site. The Permanent or Temporary Solution must comply with 310 CMR 40.40.1000.

2. Except for recently installed passive systems at 31 Tufts Street and 163 Glen Street, the last indoor air testing for the nine passive venting systems operating under the ROS (1 Franklin Street, 93 Franklin Street, 166-168 Glen Street, 17 Knowlton Street, 32 Knowlton Street, 34 Knowlton Street, 4 Morton Street, 11 Morton Street, and 19-19A Morton Street) was performed more than nine years ago. Given the fact that contaminant concentrations in groundwater have not decreased, MassDEP has determined that additional indoor air testing is needed in these nine buildings to assess the passive systems' current effectiveness at preventing vapor intrusion.

   In accordance with 310 CMR 40.0100, MassDEP is requiring the following response actions within the specified deadlines:

   - By **February 12, 2026**, conduct at least two rounds of indoor testing of passive systems at the nine residences listed above. One round must be performed during the heating season.

3. According to the Immediate Response Action Completion Report submitted in 2009, Critical Exposure Pathways ("CEPs") were identified at seven multi-residential buildings (99 Franklin Street, 162-164 Glen Street, 9 Tufts Street, 11-13 Tufts Street, 17 Tufts Street, 19 Tufts Street, and 25 Tufts Street) but the pathways were not addressed because the owners refused UniFirst's offer of mitigation systems. Because groundwater levels of chlorinated solvents have not changed since 2009, MassDEP has determined that the seven buildings must be reassessed for CEPs and, if CEPs are determined to still exist, they must be eliminated or

mitigated to the extent feasible.

In accordance with 310 CMR 40.0100, MassDEP is requiring the following response actions within the specified deadlines:

- By **February 12, 2026**, conduct indoor air sampling at the seven multi-family residences listed above. Sufficient rounds of indoor air testing must be performed to determine if the CEPs still exist. Any and all CEPs must be eliminated or mitigated to the extent feasible. MassDEP has determined that active Sub-Slab Depressurization ("SSD") systems are generally feasible to address CEPs. In accordance with 310 CMR 40.0173, MassDEP provides access assistance where reasonable efforts to obtain access to any site or other location to be investigated has not been achieved. Procedures for the CEP investigations must comply with 310 CMR 40.0191, including the requirement at 40.0191(2)(a) to consider relevant policies and guidelines issued by MassDEP (e.g., MassDEP's Vapor Intrusion Guidance), the Executive Office of Energy and Environmental Affairs, and the United States Environmental Protection Agency.

Post Audit Completion Statement

When these required activities are completed (i.e., within 2 years), submit a Post-Audit Completion Statement, Form BWSC111, in accordance with 310 CMR 40.1170, to MassDEP.

Attachment B

SITE MEMORANDUM

Somerville

50 Tufts Street

Release Tracking Number 3-23246

I. AUDIT ACTIVITIES

MassDEP audited response actions undertaken to assess historical releases of chlorinated solvents used at 50 Tufts Street in Somerville (the "Property").

Documents reviewed during the Audit included, but are not limited to:

- Immediate Response Action ("IRA") Reports
- A Phase II Comprehensive Site Assessment (submitted on July 14, 2008)
- A Phase III Remedial Action Plan (submitted on July 14, 2008)
- A Phase IV Remedy Implementation Plan (submitted on August 10, 2009)
- A Phase IV Final Inspection Report (submitted on August 4, 2011)
- A Phase V ROS Report (submitted on August 4, 2011)
- Phase V ROS Status Reports and Remedial Monitoring Reports (submitted between 2012 and 2024) Partial Response Action Outcome
- Partial Response Action Outcome Statements or Partial Permanent Solutions [2]; and
- Summaries of indoor air testing results for the Site, provided to MassDEP by Joe Roman of GEI Consultants, Inc. ("GEI").

[2] As of April 25, 2014, the term "RAO" was replaced by the terms "Permanent Solutions" and "Temporary Solutions" in 310 CMR 40.0000.

II. SITE SUMMARY

Site History

From approximately 1955 to 2002, the 50 Tufts Street Property was used for the storage and distribution of industrial chemicals, laundry supplies, and dry-cleaning supplies. The Property is currently occupied by a one-story building that is used as warehouse space, and a small portion as office space. The historical uses of the Property resulted in the contamination of soil, soil gas, indoor air, groundwater, storm drains and storm water discharges into the Millers River. Response actions that assessed impacts to the storm drains and the Millers River have been performed under RTN 3-28231.

Three cVOCs are predominant in groundwater at the source property; PCE, TCE and 1,1,1-trichloroethane ("TCA"). Except for contamination in the storm drain and Millers River, the Site boundary is depicted in Figures 1 and 2 included in Attachment C.

On October 3, 2003, MassDEP received a 120-Day Release Notification Form for levels of cVOCs exceeding Reportable Concentrations in soil and groundwater at the 50 Tufts Street property. The RTN 3-23246 was assigned to the release. On November 9, 2005, MassDEP sent the UniFirst a Notice of Responsibility. Immediate Response Actions were required at the Site to mitigate migration of cVOCs from the subsurface into indoor air at the 50 Tufts Street building and nearby buildings.

Between 2004 and 2006, UniFirst notified MassDEP of three other reportable conditions associated with the migration of contaminated groundwater into a storm drain and into the surrounding neighborhood. These conditions were assigned the following RTNs: 3-28231, 3-24358, 3-24376, and 3-26114, respectively. On June 16, 2006, RTNs 3-24358 and 3-24376 were linked to RTN 3-23246. On July 17, 2007, RTN 3-26114 was linked to 3-23246.

On July 14, 2008, a Phase II Comprehensive Site Assessment was submitted to MassDEP depicting the horizontal extent of the Disposal Site boundary known at the time (see Attachment C, Figure 2). A Phase III Remedial Action Plan was submitted at the same time as the Phase II Comprehensive Site Assessment. The Phase III Remedial Action Plan selected a remedy that consists of continuing the

operation of the SVE system at the Property, site-wide vapor mitigation (active and passive), and MNA for contaminants in groundwater. The Phase III Remedial Action Plan estimated that the selected remedy will require more than 100 years to achieve a Permanent Solution.

The selected remedial actions have been continued during Phase IV and Phase V activities. On August 4, 2011, the Site achieved ROS with the submittal of a Phase V ROS Report. Phase V ROS Status Reports and Remedial Monitoring Reports[3] have been submitted to MassDEP every six months. The Phase V ROS Status Report submitted in August 2024 states that 9,441 lbs of cVOCs have been removed from the vadose zone at the Property due to the operation of the SVE system and the SSD system. Phase V ROS Status Reports have stated that the PCE, TCE, and TCA plumes are either not increasing or are stable.

Groundwater Contamination

Groundwater within the disposal site boundary is generally classified as GW-2. PCE is the main contaminant in groundwater, with up to 74,900 µg/l detected in a monitoring well at the Property. TCE is generally present at lower concentrations compared to PCE, although up to 175,000 µg/l were detected in a monitoring well at the Property. Multiple lines of evidence indicate that DNAPL is likely present in overburden down to the top of bedrock (and possibly in bedrock) at the Site.

The Phase II Comprehensive Site Assessment and the Phase V ROS Status Reports depict concentration contour lines for levels of PCE in shallow groundwater (see, Attachment C, Figure 1 and Figure 2). Levels of cVOCs in groundwater indicate a migration of the plume that is primarily to the northeast and east. There is also a southwestern component of the plume that extends from the Property across Washington Street and to the MBTA storm drain system.

Vapor Intrusion

To date, approximately 75 buildings within the Site have been assessed for the vapor intrusion pathway. These buildings were assessed because nearby groundwater monitoring wells contained

[3] MassDEP approved the transition of monthly to 6-month Remedy Operation Reports submittals.

PCE, TCE, or both, above their Method 1 GW-2 Standards. Lines of evidence for the assessments included levels of cVOCs in groundwater, sub-slab soil gas, and indoor air.

CEPs were initially identified at 31 residential buildings and at one school (the Capuano Center). Twenty-two CEPs were mitigated using passive and active venting systems. The location of all systems is presented in Figure 3 of Attachment C. The owners of eight multi-unit residences and two single family residences refused systems that were offered by UniFirst and designed to mitigate CEPs.

The effectiveness of each active and passive system was determined by testing the indoor air for site cVOCs. The active mitigation systems are being monitored using remote telemetry. Partial Response Action Outcomes have been submitted for two of the residences with passive systems. Passive mitigation systems that remain in operation as part of the ROS are located at the following residences:

- 91 Franklin Street
- 93 Franklin Street
- 166-168 Glen Street
- 17 Knowlton Street
- 32 Knowlton Street
- 34 Knowlton Street
- 4 Morton Street
- 11 Morton Street
- 19-19A Morton Street

At one of the multi-unit residences where mitigation systems were declined, the building was reconstructed as a mixed commercial/residential building, the indoor air tested, and no CEP identified. The remaining seven multi-unit residences where unmitigated CEPs may still exist include the following properties:

- 99 Franklin Street
- 162-164 Glen Street

- 9 Tufts Street
- 11-13 Tufts Street
- 17 Tufts Street
- 19 Tufts Street
- 25 Tufts Street

UniFirst concluded in 2009 that it is infeasible to mitigate these CEPs because No Significant Risk ("NSR") has been demonstrated for the vapor intrusion at these buildings and because owners refused offers of mitigation systems (Immediate Response Action Completion Report and Remedial Monitoring Report No. 11, 11/13/2009).

Complete vapor intrusion pathways were identified at three commercial buildings. An Imminent Hazard was identified in an office located at 50 Tufts Street. UniFirst determined that a Condition of NSR exists at the second commercial building. UniFirst offered a mitigation system to the owner of the third commercial building, but the offer was refused.

The Imminent Hazard at the Property was eliminated using an SSD system and an SVE system. The building is currently occupied by several tenants. Based on indoor air testing results collected since the combined system has been in operation, a Condition of NSR has been achieved for the building at the Property for full-time commercial workers.

III. DETERMINATION

On the basis of the activities performed during the audit, and in reliance upon the accuracy of that information, MassDEP makes the Determination that violations of the MCP were found in the actions audited, as outlined in Attachment A.

Attachment C

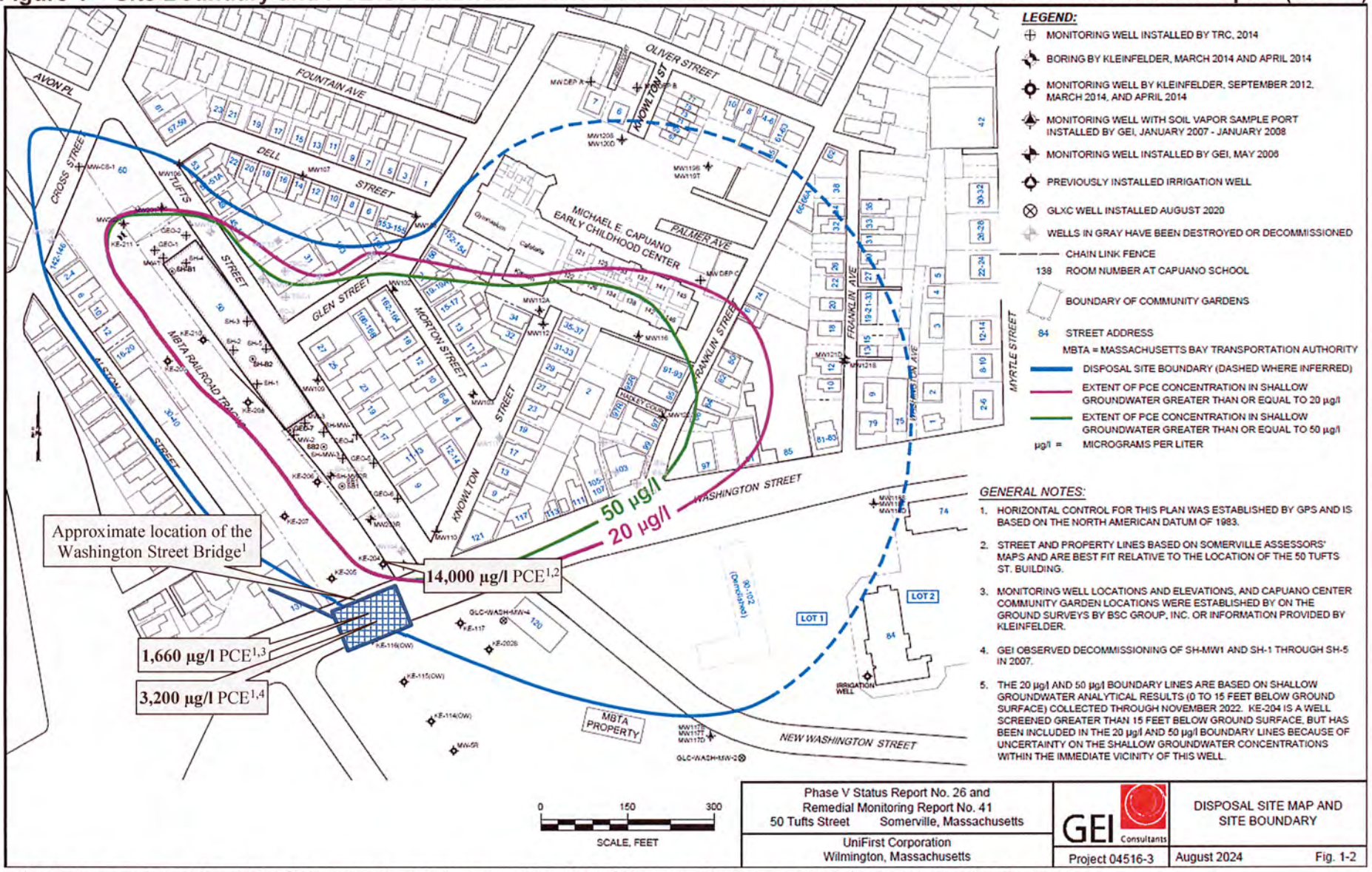
SITE FIGURES

Somerville

50 Tufts Street

Release Tracking Number 3-23246

Figure 1 – Site Boundary and PCE Groundwater Contour Lines as Presented in the 2024 Phase V ROS Status Report (No. 27)


LEGEND:
MONITORING WELL INSTALLED BY TRC, 2014
BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
MONITORING WELL INSTALLED BY GEI, MAY 2006
PREVIOUSLY INSTALLED IRRIGATION WELL
GLXC WELL INSTALLED AUGUST 2020
WELLS IN GRAY HAVE BEEN DESTROYED OR DECOMMISSIONED
CHAIN LINK FENCE
138 ROOM NUMBER AT CAPUANO SCHOOL
BOUNDARY OF COMMUNITY GARDENS
84 STREET ADDRESS
MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
DISPOSAL SITE BOUNDARY (DASHED WHERE INFERRED)
EXTENT OF PCE CONCENTRATION IN SHALLOW GROUNDWATER GREATER THAN OR EQUAL TO 20 µg/l
EXTENT OF PCE CONCENTRATION IN SHALLOW GROUNDWATER GREATER THAN OR EQUAL TO 50 µg/l
µg/l = MICROGRAMS PER LITER
GENERAL NOTES:
1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC. OR INFORMATION PROVIDED BY KLEINFELDER.
4. GEI OBSERVED DECOMMISSIONING OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.
5. THE 20 µg/l AND 50 µg/l BOUNDARY LINES ARE BASED ON SHALLOW GROUNDWATER ANALYTICAL RESULTS (0 TO 15 FEET BELOW GROUND SURFACE) COLLECTED THROUGH NOVEMBER 2022. KE-204 IS A WELL SCREENED GREATER THAN 15 FEET BELOW GROUND SURFACE, BUT HAS BEEN INCLUDED IN THE 20 µg/l AND 50 µg/l BOUNDARY LINES BECAUSE OF UNCERTAINTY ON THE SHALLOW GROUNDWATER CONCENTRATIONS WITHIN THE IMMEDIATE VICINITY OF THIS WELL.
Approximate location of the Washington Street Bridge[1]
14,000 µg/l PCE[1,2]
1,660 µg/l PCE[1,3]
3,200 µg/l PCE[1,4]
50 µg/l
20 µg/l
WASHINGTON STREET
NEW WASHINGTON STREET
MBTA PROPERTY
MBTA RAILROAD TRACKS
OLIVER STREET
FOUNTAIN AVE
DELL STREET
TUFTS STREET
CROSS STREET
AVON PL
GLEN STREET
MORTON STREET
KNOWLTON STREET
FRANKLIN STREET
PALMER AVE
MICHAEL E. CAPUANO EARLY CHILDHOOD CENTER
MYRTLE STREET
LOT 1
LOT 2
IRRIGATION WELL
0 150 300
SCALE, FEET
Phase V Status Report No. 26 and Remedial Monitoring Report No. 41
50 Tufts Street Somerville, Massachusetts
UniFirst Corporation
Wilmington, Massachusetts
GEI Consultants
Project 04516-3
DISPOSAL SITE MAP AND SITE BOUNDARY
August 2024
Fig. 1-2

[1]Added to figure by MassDEP. [2]Measured in monitoring well in 2014. [3]Measured in trench, 2019. [4]Collected by MBTA, 2021.

Figure 2 – Site Boundary and PCE Groundwater Contour Line from the 2008 Phase II Comprehensive Site Assessment Report

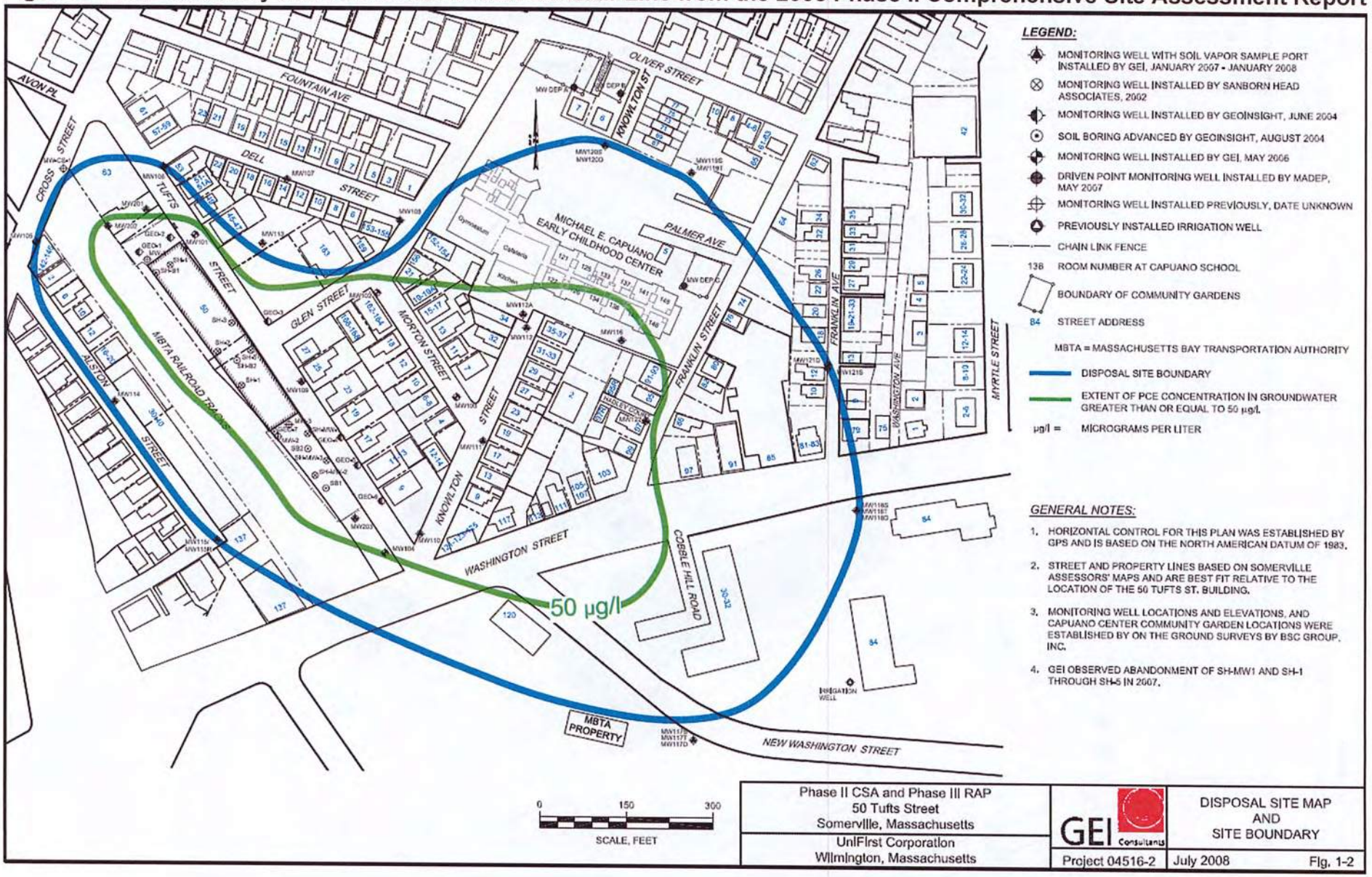

LEGEND:
MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
MONITORING WELL INSTALLED BY GEI, MAY 2006
DRIVEN POINT MONITORING WELL INSTALLED BY MADEP, MAY 2007
MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
PREVIOUSLY INSTALLED IRRIGATION WELL
CHAIN LINK FENCE
136 ROOM NUMBER AT CAPUANO SCHOOL
BOUNDARY OF COMMUNITY GARDENS
84 STREET ADDRESS
MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
DISPOSAL SITE BOUNDARY
EXTENT OF PCE CONCENTRATION IN GROUNDWATER GREATER THAN OR EQUAL TO 50 µg/l.
µg/l = MICROGRAMS PER LITER
GENERAL NOTES:
1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
4. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.
50 µg/l
AVON PL
CROSS STREET
FOUNTAIN AVE
DELL STREET
TUFTS STREET
ALSTON STREET
GLEN STREET
MORTON STREET
KNOWLTON STREET
OLIVER STREET
KNOWLTON ST
PALMER AVE
MICHAEL E. CAPUANO EARLY CHILDHOOD CENTER
FRANKLIN AVE
FRANKLIN STREET
WASHINGTON AVE
MYRTLE STREET
MBTA RAILROAD TRACKS
WASHINGTON STREET
COBBLE HILL ROAD
NEW WASHINGTON STREET
MBTA PROPERTY
IRRIGATION WELL
0 150 300
SCALE, FEET
Phase II CSA and Phase III RAP
50 Tufts Street
Somerville, Massachusetts
UniFirst Corporation
Wilmington, Massachusetts
GEI Consultants
DISPOSAL SITE MAP AND SITE BOUNDARY
Project 04516-2
July 2008
Fig. 1-2

Figure 3 – Location of Active and Passive Mitigation Systems as presented in the 2024 Phase V ROS Status Report (No. 27)

Notes:
1. EPMMs demonstrated to be no longer required based on testing requirements in the MassDEP Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure, Policy #WSC-16-435 (Section 3.7 and Tables 3-1 and 3-2).

0 50 100 200
SCALE, FEET

Phase V Status Report No. 26 and Remedial Monitoring Report No. 41 50 Tufts Street, Somerville, Massachusetts	GEI Consultants	EPMM INSTALLATION PROGRESS
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	August 2024 Fig. 6-1

Appendix B MassDEP Transmittal Forms

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC 108

Release Tracking Number
3 - 23246

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

A. SITE LOCATION:

1. Site Name: 50 TUFTS ST & PROP ACROSS THE ST

2. Street Address: 50 TUFTS ST

3. City/Town: SOMERVILLE 4. ZIP Code: 021454129

☑ 5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category:

☐ a. Tier I ☐ b. Tier ID ☑ c. Tier II

B. THIS FORM IS BEING USED TO: (check all that apply)

☐ 1. Submit a **Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 2. Submit a **Revised Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 3. Submit a **Phase II Scope of Work,** pursuant to 310 CMR 40.0834.

☐ 4. Submit [illegible] **interim Phase II Report.** This report does not satisfy the response action deadline requirements in 310 CMR [illegible].

☐ 5. Submit a **final Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☑ 6. Submit a **Revised Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☐ 7. Submit a **Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☐ 8. Submit a **Revised Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☐ 9. Submit a **Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 10. Submit a **Modified Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 11. Submit an **As-Built Construction Report,** pursuant to 310 CMR 40.0875.

☐ 12. Submit a **Phase IV Status Report,** pursuant to 310 CMR 40.0877.

☐ 13. Submit a **Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

Specify the outcome of Phase IV activities: (check one)

☐ a. Phase V Operation, Maintenance or Monitoring of the Comprehensive Remedial Action is necessary to achieve a Permanent or Temporary Solution.

☐ b. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ c. The requirements of a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

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B. THIS FORM IS BEING USED TO (cont.): (check all that apply)

☐ 14. Submit a **Revised Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

☐ 15. Submit a **Phase V Status Report,** pursuant to 310 CMR 40.0892.

☐ 16. Submit a **Remedial Monitoring Report.** (This report can only be submitted through eDEP.)

a. Type of Report: (check one) ☐ i. Initial Report ☐ ii. Interim Report ☐ iii. Final Report

b. Frequency of Submittal: (check all that apply)

☐ i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.

☐ ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.

☐ iii. A Remedial Monitoring Report(s) submitted every six months, concurrent with a Status Report.

☐ iv. A Remedial Monitoring Report(s) submitted, concurrent with a Status Report.

c. Status of Site: (check one) ☐ i. Phase IV ☐ ii. Phase V ☐ iii. Remedy Operation Status ☐ iv. Temporary Solution

d. Number of Remedial Systems and/or Monitoring Programs: _____

A separate BWSC108A, CRA Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.

☐ 17. Submit a **Remedy Operation Status,** pursuant to 310 CMR 40.0893.

☐ 18. Submit a **Status Report to maintain a Remedy Operation Status,** pursuant to 310 CMR 40.0893(2).

☐ 19. Submit a **Transfer and/or a Modification of Persons Maintaining a Remedy Operation Status (ROS),** pursuant to 310 CMR 40.0893(5) (check one, or both, if applicable).

☐ a. Submit a Transfer of Persons Maintaining an ROS (the transferee should be the person listed in Section D, "Person Undertaking Response Actions").

☐ b. Submit a Modification of Persons Maintaining an ROS (the primary representative should be the person listed in Section D, "Person Undertaking Response Actions").

c. Number of Persons Maintaining an ROS not including the primary representative: _____

☐ 20. Submit a **Termination of a Remedy Operation Status,** pursuant to 310 CMR 40.0893(6).(check one)

☐ a. Submit a notice indicating ROS performance standards have been met. A plan and timetable pursuant to 310 CMR 40.0893(6)(b) for resuming the ROS are attached.

☐ b. Submit a notice of Termination of ROS.

☐ 21. Submit a **Phase V Completion Statement,** pursuant to 310 CMR 40.0894.

Specify the outcome of Phase V activities: (check one)

☐ a. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ b. The requirements for a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ 22. Submit a **Revised Phase V Completion Statement,** pursuant to 310 CMR 40.0894.

☐ 23. Submit a **Temporary Solution Status Report,** pursuant to 310 CMR 40.0898.

☐ 24. Submit a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).

a. Status of Site: (check one)

☐ i. Phase IV ☐ ii. Phase V ☐ iii. Remedy Operation Status ☐ iv. Temporary Solution

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C. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> *if Section B indicates that a* ***Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement*** *and/or a* ***Termination of a Remedy Operation Status*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that a* ***Phase II Scope of Work*** *or a* ***Phase IV Remedy Implementation Plan*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that an* ***As-Built Construction Report,*** *a* ***Remedy Operation Status,*** *a* ***Phase IV, Phase V or Temporary Solution Status Report,*** *a* ***Status Report to Maintain a Remedy Operation Status,*** *a* ***Transfer or Modification of Persons Maintaining a Remedy Operation Status*** *and/or a* ***Remedial Monitoring Report*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

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I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP#: 9719
2. First Name: ILEEN S
3. Last Name: GLADSTONE
4. Telephone: 7817214012
5. Ext.:
6. Email: igladstone@geiconsultants.com
7. Signature:
8. Date: (mm/dd/yyyy)
9. LSP Stamp:

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

D. PERSON UNDERTAKING RESPONSE ACTIONS:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☐ c. change in the person undertaking response actions

2. Name of Organization: UNIFIRST CORPORATION

3. Contact First Name: CATHERINE 4. Last Name: MALAGRIDA

5. Street: 68 JONSPIN RD 6. Title: ENV COMPLIANCE MANAGER

7. City/Town: WILMINGTON 8. State: MA 9. ZIP Code: 018871090

10. Telephone: 9786588888 11. Ext: 12. Email: catherine_malagrida@unifirst.com

E. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTIONS: ☐ Check here to change relationship

☑ 1. RP or PRP ☐ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter

☑ e. Other RP or PRP Specify: OTHER PRPS

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Undertaking Response Actions Specify Relationship:

F. REQUIRED ATTACHMENT AND SUBMITTALS:

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☐ 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

☑ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of any Phase Reports to DEP.

☑ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase III Remedial Action Plan.

☑ 4. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase IV Remedy Implementation Plan.

☑ 5. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of any field work involving the implementation of a Phase IV Remedial Action.

☐ 6. If submitting a Transfer of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for the person making this submittal (transferee) is attached.

☐ 7. If submitting a Modification of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for each new person making this submittal is attached.

☐ 8. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to: BWSC.eDEP@Mass.Gov.

☑ 9. Check here to certify that the LSP Opinion containing the material facts, data including, but not limited to: pressure measurements, maps, graphs, or diagrams, and other information is attached.

G. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTIONS:

1. I, _____, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

>*if Section B indicates that this is a* **Modification of a Remedy Operation Status (ROS),** I attest under the pains and penalties of perjury that I am fully authorized to act on behalf of all persons performing response actions under the ROS as stated in 310 CMR 40.0893(5)(d) to receive oral and written correspondence from MassDEP with respect to performance of response actions under the ROS, and to receive a statement of fee amount as per 4.03(3).

I understand that any material received by the Primary Representative from MassDEP shall be deemed received by all the persons performing response actions under the ROS, and I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

2. By: _____ (Signature) 3. Title: ENV COMPLIANCE MANAGER

4. For: UNIFIRST CORPORATION (Name of person or entity recorded in Section D) 5. Date: _____ (mm/dd/yyyy)

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section D.

7. Street: _____

8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____

11. Telephone: _____ 12. Ext. _____ 13. Email: _____

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YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO $10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)

Appendix C Summary of Resident Communications

Table C-1. Correspondence Tracking
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Property	Date	Communication
84 Franklin Street	January 27, 2026	Email correspondence with homeowner to schedule additional indoor air sampling.
	February & March, 2026	Follow-up email and phone correspondence with the homeowner to schedule indoor air sampling. Conducted March 17-18, 2026.
	March 17, 2026	Notice of Sampling letter handed to homeowner during indoor air sampling. Owner mentioned their neighbor (86 Franklin Street) asked why we weren't sampling there too. GEI explained 86 Franklin was closed under a Partial Permanent Solution Statement in October 2017, and provided contact information for the neighbor to reach out if desired.
	March 25-30, 2026	Text with homeowner to schedule resample of basement sample due to ambient indoor air canister. Conducted March 31-April 1, 2026.
91-93 Franklin Street	February 2025	Email correspondence to schedule indoor air sampling. Conducted February 17-18, 2025.
	February 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	April 2025	Mailed indoor air sampling results letter to homeowner.
	December 2025	Phone correspondence to schedule EPMM inspection and indoor air sampling. Conducted December 18-19, 2025.
	January 2026	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	January 29, 2026	Mailed indoor air sampling results letter to homeowner.
95 Franklin Street	January 13, 2026	Called owner to schedule annual EPMM inspection. Conducted January 14, 2026.
97 Franklin Street	January 27, 2026	Called owner to schedule indoor air and soil vapor sampling; left voicemail.
	February 5, 2026	Visited property and knocked on door. Met with owner. Scheduled indoor air and soil vapor sampling for February 9-10, 2026.
	February 9, 2026	Notice of Sampling letter handed to owner during sampling.
	March 5, 2026	Mailed indoor air sampling results letter to homeowner.
99 Franklin Street	December 5, 2025	Attempted to mail certified letter to 99 Franklin Street regarding environmental conditions and requesting access to conduct additional indoor air sampling. Letter returned to sender.
	December 18, 2025	Mailed certified letter to homeowner's address regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	January 28, 2026	Visited property to see if we could establish contact with a tenant. No contact.
	January 29, 2026	Mailed another copy of certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February 12, 2026	UniFirst's Attorney provided possible phone numbers from records search. Attempted calling. Calls failed (out of service).
	February 17, 2026	Mailed another copy of certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	March 24, 2026	Visited property again to see if we could establish contact with a tenant. No contact.
162-164 Glen Street	December 5, 2025	Mailed certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	December 17, 2025	Visited property and knocked on door. Met with owner. Scheduling of indoor air sampling is pending owner availability in early 2026.
	January 1, 2026	Email correspondence with homeowner to schedule indoor air sampling. Conducted February 5-6, 2026.
	January 29, 2026	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	March 2, 2026	Email correspondence with homeowner to schedule a second round of indoor air sampling
	March 3, 2026	Called home phone to schedule a second round of indoor air sampling. Conducted March 9-10, 2026.
	March 5, 2026	Emailed February 2026 indoor air sampling results letter to homeowner.
	March 9, 2026	Notice of Sampling letter handed to homeowner during second round of sampling.
	May 6, 2026	Emailed March 2026 indoor air sampling results letter to homeowner.
166-168 Glen Street	February 14, 2025	Email with homeowner to schedule indoor air sampling. Conducted February 20-21, 2025.
	February 19, 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	April 3, 2025	Emailed indoor air sampling results letter to homeowner.
	October - December 2025	Email/phone calls with homeowner regarding potential sewer line replacement.
	December 2025	Called and emailed to schedule EPMM inspection and indoor air sampling. Unable to schedule in 2025.
	January 13, 2026	Text correspondence with homeowner. Scheduled EPMM inspection and indoor air sampling for January 27-28, 2026.
	January 27, 2026	Notice of sampling handed to homeowner during sampling.
	January 29, 2026	Text with homeowner to schedule resample of basement sample due to ambient indoor air canister. Conducted February 5-6, 2026.
	March 5, 2026	Emailed indoor air sampling results letter to homeowner.
17 Knowlton Street	February 20, 2025	Email with homeowner to schedule sampling. Conducted March 5-6, 2025.
	March 4, 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	April 4, 2025	Emailed indoor air sampling results letter to homeowner.
	December 2025	Email with homeowner to schedule EPMM inspection and indoor air sampling. Unable to schedule in 2025.
	January 20, 2026	Visited property to discuss scheduling with homeowner. No contact.
	January 23, 2026	Visited property again to discuss scheduling with homeowner. Scheduled EPMM inspection and indoor air sampling for January 27-28, 2026.
	January 27, 2026	Notice of sampling letter handed to homeowner during sampling.
	March 5, 2026	Mailed indoor air sampling results letter to homeowner.
31-33 Knowlton Street	January 2026	Emailed and texted homeowner to schedule an EPMM inspection. No contact.
	January 15, 2026	Homeowner responded to email. Provided updated phone number for future contact. EPMM inspection conducted January 16, 2026.
32 Knowlton Street	February 21, 2025	Phone call to schedule indoor air sampling. Conducted February 27-28, 2025.
	February 26, 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	April 4, 2025	Mailed indoor air sampling results letter to homeowner.
	December 2025	Called to schedule EPMM inspection and indoor air sampling. Conducted December 18-19, 2025.
	January 2026	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	January 29, 2026	Mailed indoor air sampling results letter to homeowner.

Table C-1. Correspondence Tracking
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Property	Date	Communication
34 Knowlton Street	February 14, 2025	Phone call to schedule indoor air sampling. Conducted February 24-25, 2025.
	February 19, 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	February 26, 2025	Homeowner email response to request for vapor pin installation. Agreed to not install the vapor pin at the homeowner request.
	March 24, 2025	Email to schedule resample of first floor sample due to ambient indoor air canister. Conducted April 8-9, 2025.
	April 15, 2025	Emailed indoor air sampling results letter to homeowner.
	December 2025	Called to schedule EPMM inspection and indoor air/soil vapor (riser pipe) sampling. Conducted December 18-19, 2025.
	January 2026	Notice of Sampling letter mailed to homeowner for indoor air and soil vapor sampling.
	January 30, 2026	Emailed indoor air and soil vapor results letter to owner.
35-37 Knowlton Street	January 2026	Text and phone correspondence with homeowner. No contact.
	February 6, 2026	Visited property. Met with tenant, who called homeowner. Homeowner approved of GEI conducting EPMM inspection during the visit.
4 Morton Street	December 17, 2025	Visited property and met with tenant, who provided updated information for homeowner to attempt to contact.
	December 18, 2025	Mailed certified letter to homeowner requesting access to conduct EPMM inspection and schedule additional indoor air sampling.
	January 13, 2026	Called homeowner's cell phone provided by tenant. No contact. Followed up with an email to homeowner.
	January 14, 2026	Homeowner replied to email and requested a follow-up (in regards to scheduling indoor air sampling) in February because they were out of town.
	February 2026	Sent follow-up emails and texts to the homeowner to schedule indoor air sampling.
	February 19, 2026	Owner followed up via email, requesting that sampling be delayed a few more weeks due to snow and difficulties parking. Replied via email offering the owner parking at 50 Tufts Street, and reiterated the need to sample during the heating season.
	February 20, 2026	Continued email correspondence for scheduling. First round of indoor air sampling scheduled for February 26-27, 2026.
	February 26, 2026	Notice of Sampling letter provided to homeowner during February 2026 sampling.
	February 27, 2026	Continued correspondence with owner and tenants. Scheduled second round of sampling for March 5-6, 2026.
	March 3, 2026	Emailed Notice of Sampling letter for March 2026 sampling to homeowner.
	May 6, 2026	Emailed February and March 2026 indoor air sampling results letter to homeowner.
10 Morton Street	January 20, 2026	Contacted homeowner. Annual EPMM inspection conducted same day.
11 Morton Street	February 2025	Emails with homeowner to schedule sampling.
	April 3, 2025	Email with homeowner to schedule sampling. Conducted April 7-8, 2025.
	April 30, 2025	Email with homeowner to schedule resample of basement sample due to ambient indoor air canister; also sample first floor again for confirmation. Conducted May 6-7, 2025.
	June 25, 2025	Email indoor air results to homeowner and request for phone call.
	July - December 2025	Periodic emails/phone calls with homeowner related to RTN 3-52237, including to schedule indoor air/soil vapor sampling & install APUs.
	September 29, 2025	Email indoor air and soil vapor results (related to RTN 3-52237) and phone call discussion with homeowner.
	December 2, 2025	Provided copy of Notification Retraction Letter for RTN 3-52237 to homeowner via email upon request.
	December 2025	Email/phone calls to schedule additional indoor air and soil vapor sampling (second round for NAFNON). Conducted on December 18-19, 2025.
	January 2026	Notice of Sampling letter mailed for indoor air and soil vapor sampling.
	January 26, 2026	Emailed Results letter for December 2025 indoor air and soil vapor sampling.
19-19A Morton Street	February 19, 2025	Email with homeowner to schedule indoor air sampling and coordination with tenants. Conducted February 24-25, 2025.
	February 26, 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	April 4, 2025	Emailed indoor air sampling results letter to homeowner.
	December 2025	Email with homeowner and coordination with tenants to schedule EPMM inspection and indoor air sampling. Conducted December 18-19, 2025.
	January 2026	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	January 30, 2026	Emailed indoor air sampling results letter to homeowner.
9 Tufts Street	December 5, 2025	Attempted to mail certified letter to 9 Tufts Street regarding environmental conditions and requesting access to conduct additional indoor air sampling. Letter returned to sender.
	December 17, 2025	Visited property. No contact. Could not determine building owner's unit based on mailbox names so did not leave a copy of letter.
	January 29, 2026	Mailed a copy of certified letter to homeowner's address regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February 12, 2026	UniFirst's Attorney provided possible phone numbers from records search. Attempted calling. Spoke to someone who said they will forward the message along.
	February 17, 2026	Mailed another copy of certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February and March 2026	Additional attempts calling phone numbers provided by attorney. No contact. Left voicemails.
	March 24, 2026	Visited 9 Tufts street homeowner's address at 19 Rhode Island Avenue in Somerville and spoke with owner. Discussed sampling at 9 Tufts Street, which he agreed to pending tenant coordination. Handed a copy of access request letter and business card for his records.
	March 25, 2026	Called homeowner and discussed desire to sample the following week. He said he will get back to GEI after talking with the tenants. Sent a follow up email to clarify the sampling procedure and timing.
	March and April 2026	Had not heard back from homeowner after call on March 25th. Followed up with phone calls; no response.
11-13 Tufts Street	December 5, 2025	Mailed certified letters to homeowners of Units 1 to 3 regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	December 17, 2025	Visited property and met with owner of Unit 2. Scheduling of indoor air sampling is pending owner availability in early 2026.
	January 23, 2026	Had not heard back from owner since Holidays when a copy of certified mail was left in the mailbox. Visted property again. No contact.
	January 28, 2026	Visted property again. No contact.
	January 29, 2026	Mailed another copy of certified letter to homeowners regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February 17, 2026	Mailed another copy of certified letter to homeowners regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	March 24, 2026	Visited property again. No contact. Left copy of access request letter with business card in mailbox.

Table C-1. Correspondence Tracking
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Property	Date	Communication
17 Tufts Street	December 5, 2025	Mailed certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	December 17, 2025	Visited property. No contact. Left copy of certified letter in mailbox.
	January 23, 2026	Visted property. Contacted tenant and left business card. Tenant stated they would share with the homeowner.
	January 28, 2026	Visted property again. No contact.
	January 29, 2026	Mailed a copy of certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February 12, 2026	UniFirst's Attorney provided possible phone numbers from records search. Attempted calling. No contact. Followed up with a text (voicemail box full).
	February 17, 2026	Mailed another copy of certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February and March 2026	Additional attempts calling phone numbers provided by attorney. No contact. Followed up with a text (voicemail box full).
	March 24, 2026	Visited property again. No contact. Left copy of access request letter with business card in mailbox.
19 Tufts Street	December 5, 2025	Mailed certified letters to homeowners regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	December 17, 2025	Visited property and met with owner. Scheduling of indoor air sampling is pending owner availability in early 2026.
	January 2026	Email correspondence with homeowner. Indoor air sampling scheduled for January 14-15, 2026.
	January 29, 2026	Notice of sampling mailed to owner for indoor air sampling.
	March 2, 2026	Email correspondence with homeowner for a second round of indoor air sampling. Scheduled for March 9-10, 2026.
	March 5, 2026	Emailed Results letter for January 2026 Indoor Air Sampling.
	March 9, 2026	Notice of sampling provided to owner during sampling.
	May 6, 2026	Emailed March 2026 indoor air sampling results letter to homeowner.
23 Tufts Street	January 13, 2026	Phone calls to schedule EPMM inspection. Conducted January 23, 2026.
25 Tufts Street	December 5, 2025	Mailed certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	December 17, 2025	Visited property. No contact. Left copy of certified letter in mailbox.
	January 14, 2026	Visited property and met with homeowner (owner of 25 and 27 Tufts Street).
	January 15, 2026	Text correspondence with homeowner. Indoor air sampling scheduled for January 19-20, 2026.
	January 19, 2026	Notice of sampling provided to owner during sampling.
	March 2, 2026	Text correspondence with homeowner to schedule a second round of indoor air sampling.
	March 3, 2026	Followed up via text with homeowner. Indoor air sampling scheduled for March 5-6, 2026.
	March 5, 2026	Notice of sampling provided to owner during sampling.
	March 5, 2026	Mailed indoor air Results letter to owner for January 2026 sampling.
	March 6, 2026	The owner inquired about the Results letter from January 2026 sampling. Informed the owner that the letter was out for mailing. The owner provided an email address so the results could be sent electronically as well.
	May 6, 2026	Emailed March 2026 indoor air sampling results letter to homeowner.
27 Tufts Street	January 14, 2026	Visited 25 Tufts Street (same owner as 27 Tufts Street) and met with homeowner. Conducted annual EPMM inspection at 27 Tufts Street same day.
31 Tufts Street	January to February 2026	Email correspondence with property management to schedule annual EPMM inspection and indoor air/soil vapor sampling.
	January 22, 2026	Met with property management to conduct EPMM inspection. After inspection, shut EPMM vent prior to indoor air/soil vapor sampling.
	January 28, 2026	Notice of sampling letter emailed to property management. Indoor air/soil vapor sampling conducted February 5-6, 2026.
	March 5, 2026	Emailed Results letter for February 2026 Indoor Air and Soil Vapor Sampling.
60 Tufts Street	January 2026	Email correspondence with property management to schedule indoor air/soil vapor sampling. Conducted January 7-8, 2026.
	January 20, 2026	Property Manager reached out regarding results of recent indoor air sampling and requested another copy of results from October sampling for a trustee meeting.
	January 26, 2026	Mailed Notice of Sampling letter for February groundwater sampling.
	February 25, 2026	Emailed results letter for January 2026 indoor air and soil vapor sampling to property manager.
	February and March 2026	Email and phone call correspondence with property manager regarding tenant complaints of excessive SSDS blower noise. Visit property with First Electric (maintenance contractor) on March 3, 2026. Blower is operating normally.
	March 6, 2026	Called Property Manager to discuss SSDS and to schedule another round of indoor air/soil vapor sampling. No contact.
	March 25, 2026	Property manager follows up via email requesting update on SSDS for a trustee meeting. Provide update that blower is operating normally.
	May 7, 2026	Mailed results letter for February groundwater sampling
120 Washington Street	January 26, 2026	Mailed Notice of Sampling letter for February groundwater sampling.
	May 7, 2026	Mailed results letter for February groundwater sampling
121 Washington Street	January 29, 2026	Mailed December 2025 soil vapor results letter to property owner.
	February 25, 2026	December 2025 soil vapor results letter was returned to sender by postal service. Emailed results letter to owner instead.
	March 5, 2026	Discussed installation of vent piping shutdown valve with owner (installed on March 6, 2026). Indoor air/soil vapor sampling scheduled for week of 3/16/26.
	March 11, 2026	Notice of sampling letter emailed to owner.
City of Somerville	January 26, 2026	Mailed Notice of Sampling letter for February groundwater sampling.
	March 11, 2026	Mailed Notice of Sampling letter for late February and early March groundwater sampling.
	May 7, 2026	Mailed results letter for February and March groundwater sampling

General Notes:
1. EPMM = Exposure Pathway Mitigation Measure.
2. NAFNON = Notice of Audit Finding, Notice of Noncompliance. Issued by Massachusetts Department of Environmental Protection to UniFirst on December 12, 2024.
3. SSDS = Sub-slab depressurization system.

Appendix D MassDEP Communication

Coner, Chris

From: Gladstone, Ileen
Sent: Friday, November 22, 2024 10:43 AM
To: Friedmann, Andrew (DEP)
Cc: Catherine Malagrida; Forrest, Molly; Coner, Chris; Steve Johnson (Stephen.Johnson@State.MA.US)
Subject: Notification Requirements Followup
Attachments: friedmann 11-21-2024_final.pdf

Andy
The attached letter is a detailed response to our previous correspondence regarding potential notification requirements associated with new construction and building renovation at the 50 Tufts Street Site in Somerville (RTN 3-23246). Please feel free to reach out if you would like to discuss further.
Ileen

GEI
ILEEN GLADSTONE
Senior Vice President
781.721.4012 cell: 781.424.9924
400 Unicorn Park Drive | Woburn, MA 01801

November 21, 2024
Project 04516

VIA EMAIL: andrew.friedmann@mass.gov

Dr. Andrew Friedmann
Section Chief, Site Management and Data Management
Massachusetts Department of Environmental Protection
150 Presidential Way
Woburn, MA 01801

Re: Notification Requirements and Compliance Assistance Call
50 Tufts Street Site, Somerville, Massachusetts
RTN 3-23246

Dear Andy:

The purpose of this letter is to respond in further detail to your compliance assistance call on Monday July 29, 2024, and your follow-up email on Friday, August 2, 2024, informing me that new construction and building renovations within the 50 Tufts Street Site (Release Tracking Number (RTN) 3-23246) in Somerville, Massachusetts (the Site) may represent a new exposure condition and may require notification to the Department as a Condition of Substantial Release Migration (SRM) pursuant to 310 CMR 310 CMR 40.0313(4)(f). As we discussed, this compliance assistance advice contradicts the fundamental structure of the Massachusetts Contingency Plan (MCP), the Site factual history, and the approach that has been taken at the Site for almost 20 years to handle all downgradient properties under a single RTN and to not issue a new RTN for each address.

My email on Friday, August 2, 2024, responded to the potential notification conditions you identified associated with 121 Washington Street and 31 Tufts Street (**Attachment A**). This letter addresses the underlying regulatory framework.

The construction of a new or renovation of an existing residential building within the boundaries of the Site is not a new exposure pathway that triggers notification to the Department and generation of a new RTN for each renovated or redeveloped property within the Site. A Condition of SRM was originally reported for the Site in August 2004 pursuant to 310 CMR 40.0313(5), and response actions in compliance with the MCP to address the vapor intrusion pathway followed and are continuing today.

The Site is currently in Phase V under the MCP, and operation, maintenance and/or monitoring or Comprehensive Remedial Actions (CRAs) are ongoing. Comprehensive Site Assessment (Phase II) and the Remedial Action Plan (Phase III) have been completed (2008); the nature and extent of contamination and the risks posed by the Site have been defined. The Immediate Response Action (IRA) phase for this Site has ended (IRA Completion Report, 2009 Amended 2011), including any requisite

response actions for addressing Critical Exposure Pathways (CEPs) that pose a risk level greater than No Significant Risk (NSR). Any active systems installed to address CEPs that are necessary to maintain a level of NSR are being operated. As the Site is now in Phase V, the MCP does not require a new release report each time that a building within the Site is modified or a new building is constructed, provided that the building modifications or new construction incorporate appropriate controls that already have been demonstrated effective to mitigate the potential exposure pathway and maintain a condition of NSR.

1. Release, IRA, and SRM Conditions were Historically Reported Consistent with the MCP, and the Site is now in Phase V

A release of chlorinated volatile organic compounds (VOCs) to soil and groundwater at 50 Tufts Street was originally reported to Massachusetts Department of Environmental Protection (MassDEP) in 2002 and assigned RTN 3-23246. The Property owner at the time of the release was 50 Tufts Street, Inc. John Danais of the John Danais Co., Inc. had formed 50 Tufts Street, Inc., with a principal office at the Property in 1987. The company operated at the Property until 2002. UniFirst subsequently took responsibility for the historical releases at the Property, including RTN 3-23246.

In October 2004, the concentrations of tetrachlorethylene (PCE [6,290 µg/m^3]) and trichloroethylene (TCE [230 µg/m^3]) measured in the indoor air of the 50 Tufts Street building represented an Imminent Hazard (IH), and MassDEP assigned RTN 3-24358 to the release and issued a Notice of Responsibility (NOR) to 50 Tufts Street, Inc. to conduct an IRA to address the Imminent Hazard **(Attachment B)**. In October 2004, the concentration of total VOCs in two wells located within 30 feet of residences triggered a MCP 72-hour reporting requirement in accordance with 310 CMR 40.0313(4) and (5). MassDEP assigned RTN 3-24376 to the release and issued a NOR to 50 Tufts Street, Inc. to conduct an IRA to evaluate the potential for a CEP and/or a Condition of SRM **(Attachment C).** For tracking and reporting purposes, these RTNs were consolidated under RTN 3-23246 in the "Phase I Initial Site Investigation and Tier Classification," dated June 16, 2006, with the BWSC107 Form **(Attachment D).**

On November 9, 2005, DEP issued a NOR to UniFirst and identified UniFirst as a potentially responsible party (PRP) for the 50 Tufts Street Site (RTNs 3-24376, 3-23246 and 3-24358) **(Attachment E)**. On behalf of UniFirst, at that time, I became the LSP of Record for MCP compliance activities for the Site. As LSP, GEI and I continued investigations of the properties downgradient of 50 Tufts Street.

In August 2006, based on indoor air samples collected at two of those downgradient properties, 23 Tufts Street and 27 Tufts Street, GEI reported to MassDEP the potential for an IH. MassDEP assigned RTN 3-26114 to the reported release condition **(Attachment F).** At that time, Ms. Irene Dale of MassDEP, determined that the downgradient properties associated with the 50 Tufts Street Site were all to be handled under RTN 3-26114 and that additional notification to the Department and the generation of new RTNs were not required for each potential successive impacted property downgradient. Ms. Dale explained at that time in a MassDEP Release Amendment Form (**Attachment G)**:

> ***The downgradient properties associated with the 50 Tufts Street Site are all being handled under Release Tracking Number 3-26114 and not with a new RTN for each address***. This is done consistent with 310 CMR 40.317 which states in part that the "the following releases are exempt from the notification requirements stated in 310 CMR 40.0300," "(16)(b) a release notification was previously provided to the Department for

> the disposal site on which the release has been observed or documented; and (c) such presence of oil and/or hazardous material is consistent with the types, nature, exposure potential and quantities of oil and/or hazardous material for which that notification was provided to the Department."
>
> The downgradient properties located on nearby streets meet these criteria and will be handled under RTN 3-26114.

In July 2007, RTN 3-26114 was linked to RTN 3-23246. GEI provided a letter to Ms. Dale transmitting a BWSC107 Form explaining the linking of the two RTNs (**Attachment H**). All response actions associated with RTN 3-26114, including at the properties downgradient of 50 Tufts Street, were then and are still today being conducted as part of the Response Actions for the primary Site.

The preliminary site boundary presented in the 2006 Phase I Initial Site Investigation Report (ISI) includes those properties where indoor air testing was initially performed (**Attachment I**) along Tufts Street. The scope of the indoor air testing program was expanded in multiple IRA Plans approved by the MassDEP. The final extent of indoor air testing within the boundaries of the disposal Site **(Attachment J)** was presented in the 2009 IRA Completion Report. This included properties on Alston, Franklin, Knowlton, Morton, Dell, Tufts, Glen, and Washington Streets. Both properties about which you inquired in your July 29, 2024 e-mail—121 Washington Street and 31 Tufts Street—are included within the Site boundaries.

2. Current Phase V MCP Status and Process

The 50 Tufts Street Site, RTN 3-24376, is currently in Phase V Remedy Operation Status (ROS). An IRA Completion Statement was originally submitted in November 2009 following the submittal of the Phase II/Phase III on July 16, 2008. The Phase IV Remedial Implementation Plan (RIP) was submitted on August 10, 2009. Evaluation of site conditions, installation of additional vapor mitigation systems, operation and maintenance of the existing systems and ongoing monitoring continue as Comprehensive Response Actions (CRAs) (Phase IV) as provided for in 310 CMR 40.0429(3).

In response to MassDEP's Notice of Audit Findings, Notice of Noncompliance (NOAF/NON) (NON-NE-11-3S004) dated February 1, 2011, GEI submitted an IRA Completion Report Amendment (April 1, 2011) further documenting that all CEPs have been "eliminated or mitigated to the extent feasible" and that CRAs were proceeding under the Phase IV RIP.

On August 4, 2011, the Phase IV Final Inspection Report (FIR), Remedial Monitoring Report (RMR) No. 15, and Phase V ROS Report was submitted for the Site. Construction and implementation of the CRAs had been completed at that time for existing buildings, and additional activities, such as operation and monitoring of active remedial systems, were being conducted and continue to be conducted under Phase V. Phase V activities also include "monitoring of conditions at the disposal site to evaluate the effectiveness of the Comprehensive Remedial Action in reducing, treating and/or containing oil and/or hazardous material (310 CMR 40.0891(2)(c))."

GEI actively monitors the real estate market within the Site to identify renovations or redevelopment of properties that might require the incorporation of mitigation measures, such as a vapor mitigation system, to continue to ensure the effectiveness of the existing selected remedy. Potential exposure

pathways have been addressed through incorporation of mitigation measures, documented by Release Abatement Measure (RAM) Plans, consistent with the CRAs described in the Phase IV report. Examples include a two-family residential building at 34 Knowlton Street and renovation of the American Legion Post at 163 Glenn Street into a residential apartment building.

3. Risk Mitigation Measures are Being Undertaken for New Construction within the Site Consistent with the MCP

The construction of a new or renovation of an existing residential building within the boundaries of the Site does not create a new exposure pathway requiring notification, as the pathway was previously evaluated and thoroughly addressed through the prior IRA and CRA processes. Instead, GEI works within the existing CRA framework to incorporate mitigation measures into these new or renovated structures, consistent with the previously submitted reports.

The 2014 Amendments to the MCP clarified the 72-hour reporting requirement for a Condition of SRM as it pertains to a school, daycare or childcare center or occupied residential dwelling with the addition of 310 CMR 40.0313(4)(f). The Master MCP Q&A 2018-01-18 addressed when notification was required under 310 CMR 40.0313(4)(f) at a site that was already being managed under the MCP. Just as importantly for our Site, the Q&A addressed when notification is <u>not</u> required (italics added):

> If response actions taken prior to the June 20, 2014 effective date of the provisions at 310 CMR 40.0313(4)(f) have determined that the pathway is not complete, or have appropriately mitigated the pathway, then a 72-hour notification must still be made for conditions listed at 310 CMR 40.0313(4)(f) that remain a[t] *[sic]* the site ***unless prior notification of an SRM condition for a potential vapor intrusion into a school or residence was made (pursuant to the former MCP provision at 310 CMR 40.0313(5)), and response actions in compliance with the MCP to address the pathway are underway or completed.*** Where such prior notification was made and the criteria of the notification exemption at 310 CMR 40.0317(16)(a) through (c) are met, then no new notification of this condition is required (i.e., the prior SRM notification was related to the same vapor intrusion exposure potential).

The criteria, as specified in the Q&A, for not requiring a new notification for the Condition of SRM, even for the construction of a new or renovation of an existing residential building, have been met. Specifically, 310 CMR 40.0317(16)(a) through (c) provide:

> (a) a response action is being undertaken in compliance with the provisions of 310 CMR 40.0000 to address such release;
>
> (b) a release notification was previously provided to the Department for the disposal site on which the release has been observed or documented; and
>
> (c) such presence of oil and/or hazardous material is consistent with the types, nature, exposure potential and quantities of oil and/or hazardous material for which that notification was provided to the Department;

The Condition of SRM for the 50 Tufts Street site was originally reported in October 2004 (**Attachment C**) pursuant to 310 CMR 40.0313(5), RTN 3-24376 was assigned, and an IRA was initiated to evaluate the potential for a CEP in some of the residential properties along Tufts Street. Response actions to address the vapor intrusion pathway for residences and a school have either been completed or are underway under RTN 3-23246 because the RTNs were linked.

Ms. Dale explicitly documented through her 2006 communication that the criteria at 310 CMR 40.0317(16)(a) through (c) were met (**Attachment G**). Conditions at the Site continue to satisfy the criteria in 310 CMR 40.0317(16)(a) through (c) today:

- Response actions associated with the Condition of SRM (i.e., potential vapor intrusion pathway at multiple properties) are being undertaken in compliance with the provisions of 310 CMR 40.0000 to address such release (40.0317(16)(a));
- A release notification was previously provided to the Department for the disposal site (2002 [RTN 3-23246], 2004 [RTN 3-24376] and 2006 [RTN 3-26114] on which the release has been observed or documented (40.0317(16)(b)); and
- The contaminants of concern for these releases are chlorinated VOCs (primarily PCE and its daughter products) and the renovation of existing residences or construction of new residences are consistent with the types, nature, exposure potential and quantities of oil and/or hazardous material for which that notification was provided to the Department (40.0317(16)(c)).

4. Exposure Pathways Have Been Mitigated Consistent with the MCP, the Phase IV CRAs, and MassDEP's Vapor Intrusion Guidance

As described above, the Site is currently in Phase V. Phase II, Phase III, and Phase IV have been completed; prior uncertainties about the Site, including the nature and extent of contamination and the risks posed by the Site, have been addressed. The IRA phase for this Site has ended, including any requisite immediate response actions for addressing CEPs.

The new buildings or renovations being constructed at the Site are being conducted as RAMs by the entity performing work, with GEI as the LSP. MassDEP Policy "WSC-00-425: Construction of Buildings in Contaminated Areas," dated January 2000, and 310 CMR 40.0442(3) requires that a focused site assessment, risk characterization, and feasibility evaluation must be included in RAM activities unless the sites conditions, risks and feasibility assessment have already been adequately addressed by inclusion in a Phase II and III report previously submitted to MassDEP. The Phase II / Phase III report for the Site was submitted to MassDEP in July 2008; therefore, the risk assessment and mitigation alternatives previously identified may be relied on.

The vapor mitigation systems installed in new or renovated buildings are intended to be passive systems, but they incorporate a sub-slab venting system that allows for converting to active systems, should site conditions warrant. Following the installation of the vapor mitigation system in the new or renovated buildings, GEI performs sub-slab soil gas testing and indoor air testing consistent with the "WSC-16-435: Vapor Intrusion Guidance," dated October 14, 2016. Generally**,** such sampling includes quarterly indoor air sampling with two rounds conducted during the heating season. If the monitoring demonstrates that conditions pose NSR, the building is incorporated into the site-wide monitoring and maintenance plan. If

the monitoring demonstrates that conditions do not pose NSR, then a blower would be installed to convert the system from passive to active, and further monitoring is performed to demonstrate effectiveness.

To date, none of the passive systems have required conversion to active systems. At some locations, when the sub-slab soil gas samples are below the sub-slab soil gas screening values, testing is performed to evaluate if the mitigation is required. The passive system is tested with vent pipe(s) capped or closed and multiple rounds of testing are performed, including during the heating season.

5. Conclusion

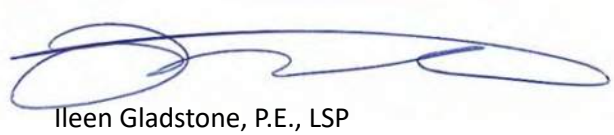
The construction of a new or renovation of an existing residential building within the boundaries of the RTN 3-23246 is not a new exposure pathway requiring notification. A Condition of SRM was originally reported for the Site in October 2004 pursuant to 310 CMR 40.0313(5) and the criteria in 310 CMR 40.0317(16)(a) through (c) continue to be met for the Site, such that the MCP does not require a new release report or SRM notification each time a property within the Site undergoes renovation or redevelopment. This approach is consistent with explicit instructions from the Department (**Attachment G**).

The Site is currently in Phase V, and operation, maintenance and/or monitoring or CRAs are ongoing, including the implementation of vapor mitigation measures for new construction within the Site boundaries, as documented to the Department through RAM Plans for the individual properties within the Site. GEI actively monitors the real estate market within the Site to identify renovations or redevelopment of properties that might require installation of a CRA, such as a vapor mitigation system, to ensure the continued effectiveness of the selected remedy established in Phase IV. The measures described in the RAM Plans for 31 Tufts Street and 121 Washington Avenue for mitigation of the vapor intrusion pathway in these new construction projects are consistent with the MCP, MassDEP's VI Guidance, and the explicit instructions received from the Department for this Site. The effectiveness of these measures has been demonstrated repeatedly over time and will continue to be demonstrated with appropriate soil gas and indoor testing, consistent with the VI Guidance, for new developments and renovations.

As always, please feel free to reach out with any questions. You can reach me at 781.721.4012 or igladstone@geiconsultants.com.

Sincerely,

GEI Consultants, Inc.



Ileen Gladstone, P.E., LSP
Senior Vice President

Chris Coner, CHMM
Project Manager

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Attachments

Attachment A	August 2, 2024 Email Correspondence to Andrew Friedman, MassDEP
Attachment B	RTN 3-0024358 Notice of Release
Attachment C	RTN 3-0024376 Notice of Release
Attachment D	Phase I Initial Site Investigation and Tier Classification, Form BWSC107 linking RTNs 3-0024358 and 3-0024376 to RTN 3-0023246
Attachment E	November 9, 2005 Notice of Responsibility to UniFirst Corporation as PRP for RTNs 3-0024376, 3-0023246, and 3-0024358
Attachment F	Notice of Responsibility for RTN 3-0026114
Attachment G	RTN 3-0026114 BWSC102 Release Amendment Form
Attachment H	Transmittal Letter and Form BWSC107 Linking RTN 3-0026114 to RTN 3-0023246
Attachment I	Phase I ISI Preliminary Site Boundary (2006)
Attachment J	Extent of Indoor Air Testing Within the Disposal Site Boundary

c: Catherine Malagrida, UniFirst Corporation
Steve Johnson, MassDEP Northeast Region

Attachment A August 2, 2024 Email Correspondence to Andrew Friedman, MassDEP

Gladstone, Ileen

From: Gladstone, Ileen
Sent: Friday, August 2, 2024 2:58 PM
To: Friedmann, Andrew (DEP)
Cc: Catherine Malagrida; Coner, Chris; Forrest, Molly
Subject: RE: Newly installed passive systems at 50 Tufts Street
Attachments: Table 1 31 Tufts Street - IA.xlsx; Table 2 31 Tufts Street - Soil Vapor.xlsx; 31 Tufts Street Sample Locations.pdf

Andy,
This email provides a response to your request for additional information on the status of 121 Washington Street and 31 Tufts Street properties in Somerville within 72 hours of my sharing your email of August 1, 2024, with Catherine Malagrida, Environmental Compliance Manager of UniFirst. As explained below, there are no new conditions at either of these properties or activities we are aware of that would warrant performing an Immediate Response Action (IRA). We plan to follow-up with a more detailed response (that requires more than 72 hours to compile).

Background

The building at 121 Washington Street is still under construction and a vapor mitigation system is being installed consistent with the RAM Plan filed in February 2024 to prevent exposures to chlorinated volatile organic compounds associated with the 50 Tufts Street Site via the vapor intrusion pathway. Consistent with 310 CMR 40.0317(16), the RAM Plan for 121 Washington Street described the initial release report at the Site in 2002, described the ongoing MCP response action at the Site; and explained that the presence of Site-related constituents at 121 Washington Street is consistent with the presence, nature, and exposure potential to the constituents across the broader Site. Since there is no occupancy at this time, there is certainly no condition that would require an IRA and work is already underway to ensure any conditions do not pose a risk to human health and the environment.

The multi-unit apartment building at 31 Tufts Street is complete and was occupied starting in February 2024. As described in our RAM Plan of July 2022, a vapor mitigation system was installed at the property as part of redevelopment to prevent exposures to Site-related chlorinated volatile organic compounds via the vapor intrusion pathway. Similarly, consistent with 310 CMR 40.0317(16), the RAM Plan for 31 Tufts Street described the initial release report at the Site in 2002, described the ongoing MCP response action at the Site, and explained that the presence of Site-related constituents at 31 Tufts Street is consistent with the presence, nature, and exposure potential to the constituents across the broader Site.

Sampling Results

The RAM Plans for 31 Tufts Street and 121 Washington Street are consistent with UniFirst's assistance in the design, installation, and monitoring of vapor mitigation systems for the renovation or redevelopment of properties within the 50 Tufts Street Site. This assistance has been provided for many years and the Department has not previously asserted that such assistance would require a new MCP notification. UniFirst and GEI have been assisting area developers with MCP compliance and the planning and installation of vapor mitigation systems as RAMs rather than as a Phase V activity to provide transparency and so that the developer is responsible for the response action.

At 31 Tufts Street, prior to occupancy, we performed two rounds of sub-slab soil gas testing and indoor air testing in October 2023 and January 2024 (data and site figure attached), consistent with the RAM Plan. The October data

was included in the December 2023 RAM Completion Report for 31 Tufts Street and the February 2024 Phase V ROS Status Report, and the January data will be included in the ROS Status Report being filed next week. Indoor air samples were collected at three locations on the first floor. One sample was in the utility room and two samples were from within residential units (the three-bedroom and two-bedroom apartments). Two soil gas samples were collected from beneath the building and the concentration of PCE and TCE in all the samples collected were less than residential sub-slab screening values. The indoor air concentrations of PCE (0.203 µg/m^3 and 0.176 µg/m^3) were substantially lower than the residential Threshold Values (TV_r) (1.4 µg/m^3) in the October sampling and were not detected in the January round. We will be conducting an additional round of soil gas and indoor air sampling in August.

Based on the data collected to date there is likely not a current vapor intrusion pathway of concern and there is not a Critical Exposure Pathway (CEP) at 31 Tufts Street. "For the purposes of CEP reporting, '*vapor-phase measurable concentrations of oil/and hazardous material"* means OHM detected in the indoor air…at concentrations greater than the TV_r (2016 Vapor Intrusion Guidance [#WSC-16-435], page 80)." The very low levels of PCE detected in October 2023 do not indicate that a CEP is present and do not trigger response actions conducted pursuant to the Immediate Response Action (IRA) regulations, outside of the existing RAM Plan. GEI and UniFirst will continue to monitor the effectiveness of the installed vapor mitigation system consistent with the RAM Plan. If subsequent data suggests that additional mitigation is necessary, GEI and UniFirst will respond accordingly. GEI and UniFirst are open to discussion with MassDEP regarding the specifics of the continuing the sub-slab soil gas and indoor air sampling program at these properties or across the Site.

Summary Conclusion

Based upon the information available to date and work conducted over the last several years and shared with MassDEP, GEI does not believe that a new condition of SRM notification is required because a notification of SRM for the Site was reported to MassDEP in 2004 pursuant to 310 CMR 40.0313(5) and new reporting is exempt pursuant to 310 CMR 40.317(16). To the extent that the Department disagrees with this explanation, we would appreciate more specific information and references to the MCP that would indicate that a new reporting requirement at the Site has been triggered.

Ileen

GEI
ILEEN GLADSTONE, P.E., LSP, LEED AP
Senior Vice President
781.721.4012 cell: 781.424.9924
400 Unicorn Park Drive, Woburn, MA 01801

From: Friedmann, Andrew (DEP) <andrew.friedmann@mass.gov>
Sent: Thursday, August 1, 2024 9:26 AM
To: Gladstone, Ileen <IGladstone@geiconsultants.com>
Subject: [EXT] Newly installed passive systems at 50 Tufts Street

EXTERNAL EMAIL

Hello Ilene,

As a follow to my compliance assistance call this past Monday (7/29/2024), below is a summary of the recently installed passive vapor intrusion mitigation systems within the 50 Tufts Street Site and associated regulations:

1. The passive systems were installed under a RAM at 31 Tufts Street and 121 Washington Street after the previous buildings were redeveloped or renovated. The buildings are designed for multi-residential use and are currently unoccupied;

2. The purpose of each system is to prevent any new exposures to Site-related chlorinated volatile organic compounds via the vapor intrusion pathway;

3. You have started indoor air testing but do not have sufficient sampling rounds to demonstrate the effectiveness of the passive systems. Testing for effectiveness needs to be conducted in future apartment spaces rather than in common areas because that is where residents spend the majority of their time; and

4. If the buildings are occupied by residents and an SRM notification is not made to MassDEP within 72 hours of occupancy, then response actions will not be conducted pursuant to the Immediate Response Action requirements that regulate Critical Exposure Pathways. Under these circumstances, it may be determined that MassDEP:
    a. Will request access to the properties to conduct our own indoor air testing; and/or
    b. Require the assessment of Critical Exposure Pathways be performed as an Immediate Response Action

Andy

Andrew Friedmann, Ph.D.
Section Chief, Site Management and Data Management
MassDEP, Northeast Regional Office
617.894.3543

Attachment B RTN 3-0024358 Notice of Release

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Northeast Regional Office – 9th Floor
ONE WINTER STREET, BOSTON, MA 02108 617-654-6500

MITT ROMNEY
Governor

KERRY HEALEY
Lieutenant Governor

ELLEN ROY HERZFELDER
Secretary

ROBERT W. GOLLEDGE, Jr.
Commissioner

FILE
SCANNED

URGENT LEGAL MATTER: PROMPT ACTION NECESSARY

November 16, 2004

John Danais Company
P.O. Box 4354
Manchester, NH 03108

RE: SOMERVILLE
50 Tufts Street
RTN 3-24358

Attention: Mr. John Danais

NOTICE OF RESPONSIBILITY; MGL c. 21E & CMR 40.0000

Dear Mr. Danais:

On October 22, 2004, at 3:52 p.m., the Department of Environmental Protection (the Department or DEP) received oral notification of the presence of chlorinated volatile organic compounds in the air inside a building located at the subject location, which requires one or more immediate response actions. Based on this information, the Department has reason to believe that the subject property or portion(s) thereof is a disposal site as defined in the Massachusetts Oil and Hazardous Material Release Prevention and Response Act, M.G.L. c. 21E and the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000. The assessment and cleanup of disposal sites is governed by M.G.L. c.21E and the MCP.

The purpose of this notice is to inform you of your legal responsibilities under state law for assessing and/or remediating the subject release. For purposes of this notice, the terms and phrases used herein shall have the meaning ascribed to them by the MCP unless the text clearly indicates otherwise.

STATUTORY LIABILITIES

The Department also has reason to believe that you (as used in this letter "you" refers to the John Danais Company) are a Potentially Responsible Party (PRP) with liability under M.G.L. c.

21E, Section 5, for response action costs. Section 5 makes the following parties liable to the Commonwealth of Massachusetts: current owners or operators of a site from or at which there is or has been a release/threat of release of oil or hazardous material; any person who owned or operated a site at the time hazardous material was stored or disposed of; any person who arranged for the transport, disposal, storage or treatment of hazardous material to or at a site; any person who transported hazardous material to a transport, disposal, storage or treatment site from which there is or has been a release/threat of release of such material; and any person who otherwise caused or is legally responsible for a release/threat of release of oil or hazardous material at a site.

This liability is "strict" meaning that it is not based on fault but solely on your status as owner, operator, generator, transporter or disposer. It is also "joint and several", meaning that you may be liable for all response action costs incurred at the site, regardless of the existence of any other liable parties.

The MCP requires responsible parties to take necessary response actions at properties where there is or has been a release or threat of release of oil and/or hazardous material. If you do not take the neeessary response actions, or fail to perform them in an appropriate and timely manner, the Department is authorized by M.G.L. c. 21E to have the work performed by its contractors. By taking such actions, you can avoid liability for response action costs incurred by the Department and its contractors in performing these actions, and any sanctions which may be imposed for failure to perform response actions under the MCP.

You may be liable for up to three (3) times all response action costs incurred by the Department. Response action costs include, without limitation, the cost of direct hours spent by Department employees arranging for response actions or overseeing work performed by persons other than the Department or their contractors, expenses incurred by the Department in support of those direct hours, and payments to the Department's contractors. (For more detail on cost liability, see 310 CMR 40.1200.)

The Department may also assess interest on costs incurred at the rate of twelve percent (12%), compounded annually. To seeure payment of this debt, the Commonwealth may place liens on all of your property in the Commonwealth. To recover the debt, the Commonwealth may foreclose on these liens or the Attorney General may bring legal action against you.

In addition to your liability for up to three (3) times all response action costs incurred by the Department, you may also be liable to the Commonwealth for damages to natural resources caused by the release. Civil and criminal liability may also be imposed under M.G.L. c. 21E, § 11, and civil administrative penalties may be imposed under M.G.L. c. 21A, § 16 for each violation of M.G.L. c. 21E, the MCP, or any order, permit or approval issued thereunder.

NECESSARY RESPONSE ACTIONS

The subject site shall not be deemed to have had all the necessary and required response actions taken unless and until all substantial hazards presented by the site have been eliminated and a level of No Significant exists or has been achieved in compliance with M. G. L. c. 21E and the MCP. In addition, the MCP requires persons undertaking response actions at disposal sites to

perform Immediate Response Actions (IRAs) in response to "sudden releases", Imminent Hazards and Substantial Release Migration. Such persons must continue to evaluate the need for IRAs and notify the Department immediately if such a need exists.

The Department has determined that an IRA is necessary to respond to the iudoor air contamiuation at the subject property. Iuitial IRA activities approved by DEP iucluded ventilation of the building aud assessment to determine the source of the coutaminatiou. DEP understands that the impacted building tenant will be moving out during the performance of the IRA activities.

You are authorized to couduct ouly the specific response actions initially approved by the Departmeut, at the time oral notification of the indoor air contamination was received. All additioual Immediate Response Actions require DEP approval in accordance with 310 CMR 40.0420.

You must employ or engage a Licensed Site Professional (LSP) to manage, supervise or actually perform the necessary response actions at the subject site. In addition, the MCP requires persons undertaking response actions at a disposal site to submit to the Department a Response Action Outcome Statement (RAO) prepared by an LSP in accordance with 310 CMR 40.1000 upon determining that a level of No Significant Risk already exists or has been achieved at a disposal site or portion thereof. [You may obtain a list of the names and addresses of these licensed professionals from the Board of Registration of Hazardous Waste Site Cleanup Professionals at (617) 556-1091.]

There are several other submittals required by the MCP which are related to release notification and/or response actions that may be conducted at the subject site in addition to an RAO, that, unless otherwise specified by the Department, must be provided to DEP within specific regulatory timeframes. The submittals are as follows:

(1) If information is obtained after making an oral or written notification to indicate that the release or threat of release did not occur, failed to meet the reporting criteria at 310 CMR 40.0311 through 40.0315, or is exempt from notification pursuant to 310 CMR 40.0317, a Notification Retraction may be submitted within 60 days of initial notification pursuant to 310 CMR 40.0335; otherwise,

(2) If one has not been submitted, a Release Notification Form (RNF) **[copy attached[** must be submitted to DEP pursuant to section 310 CMR 40.0333 within 60 calendar days of the initial date of oral notification to DEP of a release pursuant to 310 CMR 40.0300 or from the date the Department issues a Notice of Responsibility (NOR), whichever occurs earlier;

(3) Unless a RAO or Downgradient Property Status Submittal is provided to DEP earlier, an Immediate Response Action (IRA) Plan prepared in accordance with 310 CMR 40.0420, or an IRA Completion Statement (310 CMR 40.0427) must be submitted to DEP within 60 calendar days of the initial date of oral notification to DEP of a release pursuant to 310 CMR 40.0300 or from the date the Department issues a NOR, whichever occurs earlier; and

(4) Unless a RAO or Downgradient Property Status Submittal is provided to DEP earlier, a completed Tier Classification Submittal pursuant to 310 CMR 40.0510, and, if appropriate, a completed Tier I Permit Application pursuant to 310 CMR 40.0700, must be submitted to DEP within one year of the initial date of oral notification to DEP of a release pursuant to 310 CMR 40.0300 or from the date the Department issues a NOR, whichever occurs earlier.

(5) Pursuant to the Department's "Timely Action Schedule and Fee Provisions", 310 CMR 4.00, a fee of $1,200 must be included with a RAO statement that is submitted to the Department more than 120 calendar days after the initial date of oral notification to DEP of a release pursuant to 310 CMR 40.0300 or after the date the Department issues a NOR, whichever occurs earlier, and before Tier Classification. A fee is not required for a RAO submitted to the Department within 120 days of the date of oral notification to the Department, or the date the Department issues a NOR, whichever date occurs earlier, or after Tier Classification.

It is important to note that you must dispose of any Remediation Waste generated at the subject location in accordance with 310 CMR 40.0030 including, without limitation, contaminated soil and/or debris. Any Bill of Lading accompanying such waste must bear the seal and signature of an LSP or, if the response action is performed under the direct supervision of the Department, the signature of an authorized representative of the Department.

The Department encourages parties with liabilities under M.G.L. c. 21E to take prompt action in response to releases and threats of release of oil and/or hazardous material. By taking prompt action, you may significantly lower your assessment and cleanup costs and avoid the imposition of, or reduce the amount of, certain permit and annual compliance fees for response actions payable under 310 CMR 4.00.

If you have any questions relative to this notice, you should contact the undersigned at the letterhead address or (978) 682-5237. All future communications regarding this release must reference the Release Tracking Number (RTN) 3-24358 contained in the subject block of this letter.

Sincerely,

Hung V. Nguyen
Environmental Engineer
Bureau of Waste Site Cleanup

David LaPusata
Branch Chief
Emergency Response Section
Bureau of Waste Site Cleanup

cc: DEP data entry/file

Attachment: Release Notification Form; BWSC – 103

FILE

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-101

SCANNED

Release Tracking Number: 3 - 24358

RELEASE LOG FORM

A. LOG INFORMATION:

Log Date: 10/22/2004

Log Time: 3:52

Check one: ☐ AM ☑ PM

Use of Form: (check one)
☑ Initial Office
☐ Boston
☐ Amended

TYPE OF CALL (check one):
☑ Release or TOR
☐ Complaint ☐ Inquiry

CALLER (check one):
☐ PRP
☐ Public Safety Official
☐ Other Government Agency
☐ Citizen
☐ Anonymous
☑ LSP or PRP Agent
☐ Other Person:

Reporting Person: Duncan Wood

Telephone (978) 392-0900 Ext.:

Organization: Sanborn, Head & Assoc.

DISPOSITION OF CALL (check the one most applicable disposition below):

If selecting one of the two following options, assign a Release Tracking Number (RTN) in the space provided above:
☑ Reportable Release or Threat of Release
☐ Release or Threat of Release Less Than Reporting Threshold

Select one of the two following options only if an RTN was previously assigned:
☐ Release Notification Retraction (with BWSC-103 only)
☐ Not a 21E Release

If selecting any option below, do not assign an RTN:
☐ Release or Threat of Release Exempt from Reporting Requirements (not referred)
☐ Report Referred to Other Agency or Division
Referred To:
☐ No Action Taken ☐ Site Visit ☐ Compliance Site Visit

B. RELEASE OR THREAT OF RELEASE LOCATION:

Street: 50 Tufts St Location Aid:

City/Town: Somerville Adequately Regulated Status: Fee Status:

Type of Location (check all that apply): ☑ Commercial ☐ Industrial ☐ Residential ☐ School ☐ Municipal ☐ State
☐ Federal ☐ Right of Way ☐ Roadway ☐ Water Body ☐ Open Space Other:

Release Tracking Number of Associated Transition or Tier Classified Site, if any: 3-23246

C. RELEASE OR THREAT OF RELEASE (TOR) INFORMATION:

Notification Date, if different from log date:

"One Year" Status Date, if not one year after notification date:

Date and time reporting person obtained knowledge of the Release or TOR. 10/22/2004 Time 3:22 ☐ AM ☑ PM

IF KNOWN, record date and time Release or TOR occurred. Date: Time ☐ AM ☐ PM

Check all conditions that apply to the Release or Threat of Release:

2 HOUR REPORTING CONDITIONS
☐ Sudden Release
☐ Threat of Sudden Release
☐ Oil Sheen on Surface Water
☑ Poses Imminent Hazard
☐ Could Pose Imminent Hazard
☐ Release Detected in Private Well
☐ Release to Storm Drain
☐ Sanitary Sewer Release (Imminent Hazard Only)

72 HOUR REPORTING CONDITIONS
☐ Subsurface NAPL = or > 1/2 Inch
☐ UST Release
☐ Threat of UST Release
☐ Release to Groundwater near Water Supply
☐ Release to Groundwater near School or Residence

120 DAY REPORTING CONDITIONS
☐ Release of HM(s) to Soil or Groundwater > RC(s)
☐ Release of Oil to Soil > RC(s) and Affecting > 2 Cubic Yards
☐ Release of Oil to Groundwater > RC(s)
☐ Subsurface NAPL = or > 1/8 Inch and < 1/2 Inch
☐ Check here if Substantial Release Migration exists in connection with 120 Day Reporting Conditions

Source of Release or TOR (check all that apply): ☐ UST ☐ Pipe/Hose/Line ☐ AST ☐ Drums ☐ Transformer ☐ Boat
☐ Tanker Truck ☐ Vehicle ☑ Unknown ☐ Other Specify:

Federal LUST Eligible? ☐ Yes ☐ No ☑ Unknown DFS UST/AST Facility ID#

SECTION C IS CONTINUED ON THE NEXT PAGE. DFS UST/AST Tank ID#

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-101

RELEASE LOG FORM

Release Tracking Number: 3 - 24358

C. RELEASE OR THREAT OF RELEASE (TOR) INFORMATION: (continued)

Type of Release or TOR (check all that apply): ☐ Leak ☐ Spill ☐ Rupture ☐ Dumping ☐ Tank Removal ☐ Overfill
☐ Vehicle Accident ☐ Test Failure ☐ Fire ☐ Threat Only ☑ Unknown ☐ Other Specify:

Identify Media and Receptors Affected: (check all that apply) ☑ Air ☐ Groundwater ☐ Surface Water ☐ Sediments ☐ Soil
☐ Wetlands ☐ Storm Drain ☐ Paved Surface ☐ Private Well ☐ Public Water Supply ☐ Zone 2 ☐ Residence
☐ School ☐ Unknown ☐ Other Specify:

O or HM Released	(check one)	CAS # (if known)	Amount or Conc.	Units	RCs Exceeded?
Tetrachloroethylene	☐ O ☑ HM		6290	ug/m3	
Trichloroethylene	☐ O ☑ HM		230	ug/m3	

Description of Release or Threat of Release:

Caller reports elevated concentrations of chlorinated VOCs were detected in an air sample collected in this office space. Chlorinated VOCs were previously detected in soil at the site (3-23246). IRS sought to ventilate this office space with three rooms occupied a portion of a one-story building. Tenant is moving out to a temporary place.

D. PRP INFORMATION:

☐ PRP Unknown ☐ PRP Performing Response Actions ☐ Check here if additional involved parties are listed on an RLFA.
☐ PRP Unwilling or Unable to Perform Response Actions. Who is? ☐ DEP ☑ Other Person Who: Tenant

Name of PRP Organization: Father & Son Moving & Storage, Inc.

Name of PRP Contact: Francis Margaglione Title: President

Street: 50 Tufts St ☐ Check here if this PRP received a field NOR.

City/Town: Somerville State: MA ZIP Code: 02143

Telephone: (617) 776-1700 Ext.: FAX:

E. CONTRACTOR:

Contractor Name: Telephone Ext.:

Name of Contact: ☐ Check here if this is a State Contractor.

F. LSP:

LSP Name: Duncan Wood LSP Number: 8765

Telephone (978) 392-0900 Ext.: FAX:

G. MCP RESPONSE ACTIONS: (check any that apply)

☐ IRA Assessment Only ☑ IRA Oral Plan Approved* ☐ IRA Oral Plan Denied ☐ IRA Pre-notification
☐ Oral RAM Plan Approved* ☐ Oral RAM Plan Denied ☐ Notice of Intent to Conduct a URAM

Date of Action, if different from Log Date: * Provide details of approved plans on an RLFA.

☐ Check here if soil was removed from the site prior to notification. ☐ Check here if the soil was removed as part of an UST closure.

Quantity of soil previously removed and destination:

H. DEP ASSIGNMENT:

RNF Submittal Requested: ☑ Yes ☐ No From Who: Duncan Wood

Provisions of 21E Explained: ☑ Yes ☐ No Why Not:

Prepared By: Hung Nguyen Regional Use:

Number of RLFA Pages Attached: 1

Staff Lead Assigned (if different from Preparer): NA ☐ Check here if Release or TOR is unassigned.

FILE

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-102A

Release Tracking Number: 3 - 24358

RELEASE LOG FORM ATTACHMENT

A. LOG/RELEASE LOCATION INFORMATION: (complete if using BWSC-102A and 102B or BWSC-102A only)

City/Town: Somerville Date: 10/22/2004 Time: 3:52 ☐ AM ☑ PM

Release Address: 50 Tufts St

Use of Attachment (check one): ☐ Amendment to Release Log Form ☑ Attachment Page(s): 1 of: _____

B. ORAL PLAN SUMMARY: (check all that apply)

- ☐ Removal of Contaminated Soils
  - ☐ Re-use or Recycling
    - ☐ On Site ☐ Off Site Volume: _____ cubic yards
  - ☐ Treat ☐ On Site ☐ Off Site Voluma: _____ cubic yards
    - Describe: _____
  - ☐ Store ☐ On Site ☐ Off Site Volume: _____ cubic yards
  - ☐ Landfill ☐ Cover ☐ Disposal Volume: _____ cubic yards
- ☐ Removal of Drums,Tanks or Containers
  - Describe: _____
- ☐ Removal of Other Contaminated Media
  - Specify Type and Volume: _____
- ☐ Other Response Actions Describe: _____
- ☐ Deployment of Absorbent or Containment Materials
- ☐ Temporary Covers or Caps
- ☐ Bioremediation
- ☐ Soil Vapor Extraction
- ☐ Structure Venting System
- ☐ Product or NAPL Recovery
- ☐ Groundwater Treatment Systems
- ☐ Air Sparging
- ☐ Temporary Water Supplies
- ☐ Temporary Evacuation or Relocation of Residents
- ☐ Fencing and Sign Posting

☐ Check here if this Release or Threat of Release is a candidate for future presumptive approval of an IRA or RAM Written Plan.

Check one of the following: ☑ Oral IRA Plan Approval ☐ Oral RAM Plan Approval ☐ Oral IRA Plan Modification Approval

Other Comments: Approval given to Duncan Wood (LSP) to ventilate the building and conduct assessment to find the source of the indoor air contamination.

C. ADDITIONAL INVOLVED PERSON INFORMATION:

Check One: ☐ PRP ☐ PRP Local Contact ☐ Other Person Performing Response Action

☐ Other Relationship Specify: _____

Name of Organization: _____

Name of Contact: _____ Title: _____

Street: _____ ☐ Check here if this person received a field NOR.

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: _____

D. DEP ASSIGNMENT: (complete if using only BWSC-102A)

Preparer of RLFA (please print): Hung Nguyen

Staff Lead Assigned (if different from preparer): NA

☐ Check here if the Release or Threat of Release is unassigned.

☐ Check here if this RLFA records a change in staff lead.

Massachusetts Department of Environmental Protection **BWSC-102B**

Bureau of Waste Site Cleanup

RELEASE LOG FORM ATTACHMENT

Release Tracking Number

3 - 24358

E. LOG/RELEASE LGCATION INFORMATION: (complete if using BWSC-102B only)

City/Town: Somerville Date: 10/22/2004 Time: 3:52 ☐ AM ☑ PM

Release Address: 50 Tufts St

Use of Attachment (check one): ☐ Amendment to Release Log Form ☑ Attachment Page(s): 1 of: _____

F. INSPECTIONS OR SITE VISITS (also Follow-up Office Response): (check one)

☐ Initial Compliance Field Response - Announced ☐ Initial Compliance Field Response - Unannounced

☐ Compliance Field Response - Announced ☐ Compliance Field Response - Unannounced ☐ Field Audit Inspection

☐ Field Response - Direct Oversight ☐ Follow-up or Other Field Response ☐ Follow-up Office Response

G. ADDITIONAL DESCRIPTION:

H. DEP ASSIGNMENT: (complete if using BWSC-102A and 102B or BWSC-102B only)

Preparer of RLFA (please print): _____

Staff Lead Assigned (if different from preparer): _____

☐ Check here if the Release or Threat of Release is unassigned.

☐ Check here if this RLFA records a change in staff lead.

Attachment C RTN 3-0024376 Notice of Release

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

MITT ROMNEY
Governor

KERRY HEALEY
Lieutenant Governor

ELLEN ROY HERZFELDER
Secretary

ROBERT W. GOLLEDGE, Jr.
Commissioner

NOV 22 2004

URGENT LEGAL MATTER: PROMPT ACTION NECESSARY

50 Tufts Street, Inc.
28 State Street, 11th floor
Boston, MA 02109

RE: Somerville
50 Tufts Street
RTN 3-24376

Attention: Craig Campbell

NOTICE OF RESPONSIBILITY & Interim Deadline; Conditions for Assessment-only Immediate Respouse Actions

Dear Mr. Campbell:

On October 29, 2004, at 1:35 PM, the Department received oral notification of a release/threat of release of oil/hazardous material at the subject location. The Department has reason to believe that the location of the subject release/threat of release or a portion thereof is or may be a disposal site as defined in the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000.

The Departinent also has reason to believe that you (as used in this letter "you" refers to 50 Tufts Street, Inc.) are a Potentially Responsible Party (PRP) with liability under Section 5A of M.G.L. c. 21E for costs and damages associated with the subject release. This liability is "strict" meaning that it is not based on fault but solely on your status as owner, operator, generator, transporter, disposer or other person specified in Section 5A. This liability is also "joint and several", ineaning that responsible parties are liable for all response costs incurred at a disposal site even if there are other liable parties. The Department eneourages parties with liability under M.G.L. c. 21E to take prompt action in response to releases and threats of release of oil and/or hazardous material. By taking prompt action, you inay significantly lower your assessment and cleanup costs and avoid the imposition of, or reduce the amount of, certain permit and annual compliance fees for response actions payable under 310 CMR 4.00. Please refer to M.G.L. c. 21E for coinplete description of potential liability.

CONDITIONS AND INTERIM DEADLINE FOR THE ASSESSMENT-ONLY IMMEDIATE RESPONSE ACTION

You are reminded that at the time of initial notification, DEP gave you or your representative approval to conduct an "Assessment-only" Immediate Response Action (IRA). Please be advised that assessment activities must be completed as quickly as possible in order to determine whether or not immediate or accelerated response actions are neeessary at this site to prevent, eliminate or minimize damage to health, safety, public welfare or the environment.

You are hereby notified that, the approved IRA assessmeut actions must be completed at the subject site within ten (10) months of the notification date for the subject release or threat of relcase. Unless you have submitted a Response Action Outcome Statement or Downgradient Property Status Submittal to DEP, you must submit an IRA Completion Statement or a Modified IRA Plan/IRA Status Report addressing proposed remedial IRA actions to be undertaken at the site no later than 10 months after the notification date.

This 10 month deadline is established as an **"Interim Deadline"**. Section 310 CMR 40.0167 of the MCP allows the Department to establish and enforce reasonable Interim Deadlines eonsistent with M.G.L. c. 21E in order to establish timeframes for responsible parties to perform response actions at disposal sites. The Department's decision to establish one or more Interim Deadlines in accordance with 310 CMR 40.0167 is not subjeet to M.G.L. c. 30A or any other law governing adjudicatory proceedings.

GENERAL RESPONSE ACTION REQUIREMENTS

You are authorized to conduct only the specific response actions for which you received oral approval from the Department at the time you provided oral notification to the DEP of the subject release. All additional Response Actions require DEP approval in accordance with 310 CMR 40.0400.

There are several other submittals you should be aware of that are required by the MCP:

(1) If information is obtained after making an oral or written notification to indicate that the release or threat of release didn't occur, failed to meet the reporting criteria at 310 CMR 40.0311 through 40.0315, or is exempt from notification pursuant to 310 CMR 40.0317, a Notification Retraction may be submitted within 60 days of initial notification pursuant to 310 CMR 40.0335; otherwise,

(2) If one has not been submitted, a Release Notification Form (RNF) **[copy attached[** must be submitted to DEP pursuant to section 310 CMR 40.0333 within 60 calendar days of the initial date of oral notification to DEP of a release pursuant to 310 CMR 40.0300 or

from the date the Department issues a Notice of Responsibility (NOR), whichever occurs earlier;

(3) Unless an RAO or Downgradient Property Status Submittal is provided to DEP earlier, an Immediate Response Action (IRA) Plan prepared in accordance with 310 CMR 40.0420, or an IRA Completion Statement (310 CMR 40.0427) must be submitted to DEP within 60 calendar days of the initial date of oral notification to DEP of a release pursuant to 310 CMR 40.0300 or from the date the Department issues an NOR, whichever occurs earlier; and

(4) Unless an RAO or Downgradient Property Status Submittal is provided to DEP earlier, a completed Tier Classification Submittal pursuant to 310 CMR 40.0510, and, if appropriate, a completed Tier I Permit Application pursuant to 310 CMR 40.0700, must be submitted to DEP within one year of the initial date of oral notification to DEP of a release pursuant to 310 CMR 40.0300 or from the date the Department issues an NOR, whichever occurs earlier.

(5) Pursuant to the Department's "Timely Action Schedule and Fee Provisions", 310 CMR 4.00, a fee of $1,200 must be included with an RAO statement that is submitted to the Department more than 120 calendar days after the initial date of oral notification to DEP of a release pursuant to 310 CMR 40.0300 or after the date the Department issues an NOR, whichever occurs earlier, and before Tier Classification. A fee is not required for an RAO submitted to the Department within 120 days of the date of oral notification to the Department, or the date the Department issues an NOR, whichever date occurs earlier, or after Tier Classification.

You must employ or engage a Licensed Site Professional (LSP) to manage, supervise or actually perform the necessary response actions at the subject site. In addition, the MCP requires persons undertaking response actions at a disposal site to submit to the Department a Response Action Outcome Statement (RAO) prepared by an LSP in accordance with 310 CMR 40.1000 upon determining that a level of No Significant Risk already exists or has been achieved at a disposal site or portion thereof. [You may obtain a list of the names and addresses of these licensed professionals from the Board of Registration of Hazardous Waste Site Cleanup Professionals at (617) 556-1091.]

It is important to note that you must dispose of any Remediation Waste generated at the subject location in accordance with 310 CMR 40.0030 including, without limitation, contaminated soil and/or debris. Any Bill of Lading accompanying such waste must bear the seal and signature of an LSP or, if the response action is performed under the direct supervision of the Department, the signature of an authorized representative of the Department.

If you have any questions relative to this notice, you should contact the undersigned at the letterhead address or by telephone at (617) 654-6542. All future communications and/or submittals regarding this release should be directed to the Bureau of Waste Site Cleanup

(BWSC) at the letterhead address and must reference the Release Tracking Number (RTN) contained in the subject block of this letter.

Sincerely,

Iris W. Davis

Iris W. Davis
Risk Reduction Section Chief
Bureau of Waste Site Cleanup

cc: DEP data entry/file
Board of Health, Town of Somerville "via electronic submittal",

Attachment: Release Notification Form; BWSC - 103

SCANNED

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-101

RELEASE LOG FORM

Release Tracking Number: 3 - 24376

A. LOG INFORMATION:

Log Date: 10/29/2004
Log Time: 1:35

Check one: ☐ AM ☑ PM

Use of Form: (check one)
☑ Initial Office
☐ Boston
☐ Amended

TYPE OF CALL (check one):
☑ Release or TOR
☐ Complaint ☐ Inquiry

CALLER (check one):
☐ PRP
☐ Public Safety Official
☐ Other Government Agency
☐ Citizen
☐ Anonymous
☐ LSP or PRP Agent
☑ Other Person:

Reporting Person: Kyle MacAfee
Telephone (617) 654-6548 Ext.:
Organization: MA DEP

DISPOSITION OF CALL (check the one most applicable disposition below):

If selecting one of the two following options, assign a Release Tracking Number (RTN) in the space provided above:
☑ Reportable Release or Threat of Release
☐ Release or Threat of Release Less Than Reporting Threshold

Select one of the two following options only if an RTN was previously assigned:
☐ Release Notification Retraction (with BWSC-103 only)
☐ Not a 21E Release

If selecting any option below, do not assign an RTN:
☐ Release or Threat of Release Exempt from Reporting Requirements (not referred)
☐ Report Referred to Other Agency or Division
Referred To:
☐ No Action Taken ☐ Site Visit ☐ Compliance Site Visit

B. RELEASE OR THREAT OF RELEASE LOCATION:

Street: 50 Tufts Street Location Aid:
City/Town: Somerville Adequately Regulated Status: Fee Status:

Type of Location (check all that apply): ☑ Commercial ☐ Industrial ☐ Residential ☐ School ☐ Municipal ☐ State
☐ Federal ☐ Right of Way ☐ Roadway ☐ Water Body ☐ Open Space Other:

Release Tracking Number of Associated Transition or Tier Classified Site, if any:

C. RELEASE OR THREAT OF RELEASE (TOR) INFORMATION:

Notification Date, if different from log date:

"One Year" Status Date, if not one year after notification date:

Date and time reporting person obtained knowledge of the Release or TOR. 9/29/2004 Time ☐ AM ☐ PM

IF KNOWN, record date and time Release or TOR occurred. Date: Time ☐ AM ☐ PM

Check all conditions that apply to the Release or Threat of Release:

2 HOUR REPORTING CONDITIONS
☐ Sudden Release
☐ Threat of Sudden Release
☐ Oil Sheen on Surface Water
☐ Poses Imminent Hazard
☐ Could Pose Imminent Hazard
☐ Release Detected in Private Well
☐ Release to Storm Drain
☐ Sanitary Sewer Release (Imminent Hazard Only)

72 HOUR REPORTING CONDITIONS
☐ Subsurface NAPL = or > 1/2 Inch
☐ UST Release
☐ Threat of UST Release
☐ Release to Groundwater near Water Supply
☑ Release to Groundwater near School or Residence

120 DAY REPORTING CONDITIONS
☐ Release of HM(s) to Soil or Groundwater > RC(s)
☐ Release of Oil to Soil > RC(s) and Affecting > 2 Cubic Yards
☐ Release of Oil to Groundwater > RC(s)
☐ Subsurface NAPL = or > 1/8 Inch and < 1/2 Inch
☐ Check here if Substantial Release Migration exists in connection with 120 Day Reporting Conditions

Source of Release or TOR (check all that apply): ☐ UST ☐ Pipe/Hose/Line ☐ AST ☐ Drums ☐ Transformer ☐ Boat
☐ Tanker Truck ☐ Vehicle ☑ Unknown ☐ Other Specify:

Federal LUST Eligible? ☐ Yes ☑ No ☐ Unknown DFS UST/AST Facility ID#
DFS UST/AST Tank ID#

SECTION C IS CONTINUED ON THE NEXT PAGE.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-101

RELEASE LOG FORM

Release Tracking Number: 3 - 24376

C. RELEASE OR THREAT OF RELEASE (TOR) INFORMATION: (continued)

Type of Release or TOR (check all that apply): ☐ Leak ☐ Spill ☐ Rupture ☐ Dumping ☐ Tank Removal ☐ Overfill ☐ Vehicle Accident ☐ Test Failure ☐ Fire ☐ Threat Only ☑ Unknown ☐ Other Specify:

Identify Media and Receptors Affected: (check all that apply) ☐ Air ☑ Groundwater ☐ Surface Water ☐ Sediments ☑ Soil ☐ Wetlands ☐ Storm Drain ☐ Paved Surface ☐ Private Well ☐ Public Water Supply ☐ Zone 2 ☐ Residence ☐ School ☐ Unknown ☐ Other Specify:

O or HM Released	(check one)	CAS # (if known)	Amount or Conc.	Units	RCs Exceeded?
Tetrachloroethylene	☐ O ☑ HM		14.4	mg/L	yes
	☐ O ☐ HM				

Description of Release or Threat of Release:

As part of ongoing environmental assessment at existing site (RTN#3-23246), wells placed in front of residences were sampled on 8/16/04 & results transmitted to DEP as the result of an RFI. ~~DEP to issue NOR w/Interim Deadlines to conduct IRA.~~

D. PRP INFORMATION:

☐ PRP Unknown ☐ PRP Performing Response Actions ☐ Check here if additional involved parties are listed on an RLFA.

☑ PRP Unwilling or Unable to Perform Response Actions. Who is? ☐ DEP ☑ Other Person Who: Fiduciary

Name of PRP Organization: 50 Tufts Street, Inc.

Name of PRP Contact: c/o Craig Campbell Title:

Street: 28 State St., 11th Floor ☐ Check here if this PRP received a field NOR.

City/Town: Boston State: MA ZIP Code: 02109

Telephone: (617) 573-5050 Ext.: FAX:

E. CONTRACTOR:

Contractor Name: Telephone Ext.:

Name of Contact: ☐ Check here if this is a State Contractor.

F. LSP:

LSP Name: LSP Number:

Telephone Ext.: FAX:

G. MCP RESPONSE ACTIONS: (check any that apply)

☑ IRA Assessment Only ☐ IRA Oral Plan Approved* ☐ IRA Oral Plan Denied ☐ IRA Pre-notification

☐ Oral RAM Plan Approved* ☐ Oral RAM Plan Denied ☐ Notice of Intent to Conduct a URAM

Date of Action, if different from Log Date: * Provide details of approved plans on an RLFA.

☐ Check here if soil was removed from the site prior to notification. ☐ Check here if the soil was removed as part of an UST closure.

Quantity of soil previously removed and destination:

H. DEP ASSIGNMENT:

RNF Submittal Requested: ☑ Yes ☐ No From Who:

Provisions of 21E Explained: ☑ Yes ☐ No Why Not:

Prepared By: Kyle MacAfee Regional Use:

Number of RLFA Pages Attached:

Staff Lead Assigned (if different from Preparer): Irene Dale ☐ Check here if Release or TOR is unassigned.

Attachment D Phase I Initial Site Investigation and Tier Classification, Form BWSC107 linking RTNs 3-0024358 and 3-0024376 to RTN 3-0023246

RSB for VN

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC107

TIER CLASSIFICATION TRANSMITTAL FORM

Pursuant to 310 CMR 40.0500 (Subpart E)

Release Tracking Number: 3 - 23246

A. DISPOSAL SITE LOCATION:

1. Disposal Site Name: _____

2. Street Address: 50 Tufts Street

3. City/Town: Somerville 4. ZIP Code: 02145

B. THIS FORM IS BEING USED TO: (check all that apply)

☑ 1. Submit a new **Tier Classification Submittal for a Tier I Site**, including a **Numerical Ranking Scoresheet** (BWSC107A) (check one). A Tier I Permit Application must also be submitted.

☐ a. Tier IA ☐ b. Tier IB ☑ c. Tier IC

☐ 2. Submit a new **Tier Classification Submittal for a Tier II Site**, including the **Numerical Ranking Scoresheet** (BWSC107A) and the **Tier II Compliance History** (BWSC107B).

☑ 3. Submit a **Phase I Completion Statement** as per 310 CMR 40.0480.

If previously submitted, provide date _____ mm/dd/yyyy

RECEIVED
JUN 16 2006
DEP
NORTHEAST REGIONAL OFFICE

☐ 4. Submit a **Phase II Scope of Work** as per 310 CMR 40.0834.

If previously submitted, provide date _____ mm/dd/yyyy

☑ 5. Submit a **Phase II Conceptual Scope of Work supporting a Tier Classification Submittal.**

☐ 6. Submit a **Tier II Extension Submittal** for Response Actions at a Tier II Site including the **Tier II Compliance History** (BWSC107B).

☐ 7. Submit a **Tier II Transfer Submittal** for a change in person(s) undertaking Response Actions at a Tier II Site including the **Tier II Compliance History** (BWSC107B) and the **Tier II Transferor Certification** (BWSC107C).

Proposed effective date of transfer : _____ mm/dd/yyyy

☐ 8. Submit a **Revised Tier Classification Submittal,** including a **Numerical Ranking Scoresheet** (BWSC107A). A Major Permit Modification may also need to be submitted.

If this revised submittal is re-classifying the site check the new classification.

☐ a. Tier IA ☐ b. Tier IB ☐ c. Tier IC ☐ d. Tier II

☑ 9. Submit a **Notice that an additional Release Tracking Number(s) is (are) being linked to this Tier Classified Site** (Primary RTN). Future response actions addressing the Release or Threat of Release notification condition associated with additional Release Tracking Numbers (RTNs) will be conducted as part of the Response Actions planned or ongoing at the Primary Site listed above. For a previously Tier Classified Primary Site, if there is a reasonable likelihood that the addition of the new secondary RTN(s) would change the classification of the site, a **Revised Tier Classification Submittal** must also be made.

Provide Release Tracking Number(s): a. 3 - 24358 b. 3 - 24376

All future Response Actions must occur according to the deadlines applicable to the Primary RTN. Use only the Primary RTN when making future submittals for this site unless specifically relating to response actions started before the linking occurred.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC107

TIER CLASSIFICATION TRANSMITTAL FORM
Pursuant to 310 CMR 40.0500 (Subpart E)

Release Tracking Number
3 - 23246

C. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> *if Section B of this form indicates that a* ***Tier I or Tier II Classification Submittal*** *including the* ***Numerical Ranking System Scoresheet*** *is being submitted*, this Tier Classification Submittal has been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B of this form indicates that a* ***Phase I Completion Statement*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B of this form indicates that a* ***Phase II Scope of Work*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B of this form indicates that a* ***Tier II Extension Submittal*** *or a* ***Tier II Transfer Submittal*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 9719

2. First Name: Ileen S. 3. Last Name: Gladstone

4. Telephone: (781) 721-4000 5. Ext.: _____ 6. FAX: (781) 721-4073

7. Signature:

8. Date: 6/13/06
mm/dd/yyyy

9. LSP Stamp:

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC107

TIER CLASSIFICATION TRANSMITTAL FORM
Pursuant to 310 CMR 40.0500 (Subpart E)

Release Tracking Number
3 - 23246

D. PERSON MAKING SUBMITTAL:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☐ c. change in the person undertaking response actions

2. Name of Organization: UniFirst Corporation

3. Contact First Name: Brian 4. Last Name: Keegan

5. Street: 68 Jonspin Road 6. Title: Senior Engineering Manager

7. City/Town: Wilmington 8. State: MA 9. ZIP Code: 01887

10. Telephone: (978) 658-8888 11. Ext.: 645 12. FAX:

E. RELATIONSHIP OF PERSON MAKING SUBMITTAL TO DISPOSAL SITE:

☑ 1. RP or PRP ☐ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter

☑ e. Other RP or PRP Specify: Corporate affiliation with previous owner of property

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Making Submittal Specify Relationship:

F. REQUIRED ATTACHMENT AND SUBMITTALS:

☐ 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

☑ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of any Phase Reports to DEP.

☑ 3. Check here to certify that a Legal Notice of a Tier Classification or Re-classification Submittal has been or will be made according to 310 CMR 40.1403, and a copy of the notice sent to DEP, the Chief Municipal Officer and the Local Board of Health.

☐ 4. For a Tier II Extension Submittal, check here to certify that a statement summarizing why a Permanent or Temporary Solution has not been achieved at the Disposal Site is attached.

☐ 5. For a Tier II Transfer Submittal, check here to certify that a statement summarizing the reasons for the proposed change in person(s) undertaking the Response Actions is attached. All Response Actions must be completed by the deadline applicable to the person who first filed either a Tier Classification Submittal for the Disposal Site or received a Waiver of Approvals.

☐ 6. Check here if any non-updatable information provided on this form is incorrect, e.g., Site Name or Street Address. Send corrections to the DEP Regional Office.

☑ 7. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC107

TIER CLASSIFICATION TRANSMITTAL FORM
Pursuant to 310 CMR 40.0500 (Subpart E)

Release Tracking Number
3 - 23246

G. CERTIFICATION OF PERSON MAKING SUBMITTAL:

1. I, Brian Keegan, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

If submitting a Tier II Classification, Extension or Transfer, I also attest under the pains and penalties of perjury that (i) I/the person(s) or entity(ies) on whose behalf this submittal is made has/have personally examined and am/is familiar with the requirements of M.G.L. c. 21E and 310 CMR 40.0000; (ii) based upon my inquiry of the/those Licensed Site Professional(s) employed or engaged to render Professional Services for the disposal site which is the subject of this Transmittal Form and of the person(s) or entity(ies) on whose behalf this submittal is made, and my/that person's(s') or entity's(ies') understanding as to the estimated costs of necessary response actions, that/those person(s) or entity(ies) has/have the technical, financial and legal ability to proceed with response actions for such site in accordance with M.G.L. c. 21E, 310 CMR 40.0000 and other applicable requirements; and (iii) that I am fully authorized to make this attestation on behalf of the person(s) or entity(ies) legally responsible for this submittal. I/the person(s) or entity(ies) on whose behalf this submittal is made is aware of the requirements in 310 CMR 40.0172 for notifying the Department in the event that I/the person(s) or entity(ies) on whose behalf this submittal is made learn(s) that it/they is/are unable to proceed with the necessary response actions.

2. By: _____ (Signature) 3. Title: Senior Engineering Manager

4. For: UniFirst Corporation (Name of person or entity recorded in Section D) 5. Date: 6/2/06 (mm/dd/yyyy)

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section D.

7. Street: _____

8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____

11. Telephone: _____ 12. Ext.: _____ 13. FAX: _____

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO $10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY):

Attachment E November 9, 2005 Notice of Responsibility to UniFirst Corporation as PRP for RTNs 3-0024376, 3-0023246, and 3-0024358

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
METROPOLITAN BOSTON – NORTHEAST REGIONAL OFFICE

MITT ROMNEY
Governor

KERRY HEALEY
Lieutenant Governor

STEPHEN R. PRITCHARD
Secretary

ROBERT W. GOLLEDGE, Jr.
Commissioner

By Certified Mail # 7003 3110 0001 6107 9566

November 9, 2005

Unifirst Corporation
68 Jonspin Road
Wilmington, MA 01887

RE: Somerville
50 Tufts Street
RTNs: 3-24376 , 3-23246, 3-24358

NOTICE OF RESPONSIBILITY;
NOTICE OF NEED TO CONDUCT IRA;
DESIGNATION OF INTERIM DEADLINES
M.G.L. c. 21E & 310 CMR 40.0000

Attention: Ronald D. Croatti, President

Dear Mr. Croatti:

On October 3, 2003 Massachusetts Department of Environmental Protection (MassDEP) received notification that a release of oil and/or hazardous material occurred at the subject site which required the initiation of one or more Immediate Response Actions as described in Section 310 CMR 40.0410 of the Massachusetts Contingency Plan (MCP). MassDEP has also determined that Unifirst Corporation is a Potentially Responsible Party (PRP) pursuant to Massachusetts General Law, Chapter 21E (M.G.L. c. 21E), and the MCP. Attached to this letter is a fact sheet discussing the liability provisions of M.G.L. c. 21E, please refer to the statute for a complete discussion of these provisions.

MassDEP encourages parties with liabilities under M.G.L. c. 21E to take prompt action in response to releases and threats of release of oil and/or hazardous material. By taking prompt action, you may significantly lower your assessment and cleanup costs and avoid the imposition of, or reduce the amount of, certain permit and annual compliance fees for response actions payable under 310 CMR 4.00. Please refer to M.G.L. c. 21E for a complete description of potential liability.

STATUTORY LIABILITIES

Section 5 makes the following parties liable to the Commonwealth of Massachusetts: current owners or operators of a site from or at which there is or has been a release/threat of release of oil or hazardous material; any person who owned or operated a site at the time hazardous material was stored or disposed of; any person who arranged for the transport, disposal, storage or treatment of hazardous material to or at a site; any person who transported hazardous material to a transport, disposal, storage or treatment site from which there is or has been a release/threat of release of such material; and any person who otherwise caused or is legally responsible for a release/threat of release of oil or hazardous material at a site.

This liability is "strict", meaning it is not based on fault, but solely on your status as an owner, operator, generator, transporter or disposer. It is also joint and several, meaning that you may be liable for all response action costs incurred at the site, regardless of the existence of any other liable parties.

The MCP requires responsible parties to take necessary response actions at properties where there is or has been a release or threat of release of oil and/or hazardous material. If you do not take the necessary response actions, or fail to perform them in an appropriate and timely manner, MassDEP is authorized by M.G.L. c. 21E to have the work performed by its contractors. By taking such actions, you can avoid liability for response action costs incurred by MassDEP and its contractors in performing these actions, and any sanctions which may be imposed for failure to perform response actions under the MCP.

You may be liable for up to three (3) times all response action costs incurred by MassDEP. Response action costs include, without limitation, the cost of direct hours spent by MassDEP employees arranging for response actions or overseeing work performed by persons other than MassDEP or their contractors, expenses incurred by MassDEP in support of those direct hours, and payments to MassDEP's contractors. (For more detail on cost liability, see 310 CMR 40.1200.)

MassDEP may also assess interest on costs incurred at the rate of twelve percent (12%), compounded annually. To secure payment of this debt, the Commonwealth may place liens on all of your property in the Commonwealth. To recover the debt, the Commonwealth may foreclose on these liens or the Attorney General may bring legal action against you.

In addition to your liability for up to three (3) times all response action costs incurred by MassDEP, you may also be liable to the Commonwealth for damages to natural resources caused by the release. Civil and criminal liability may also be imposed under M.G.L. c. 21E, § 11, and civil administrative penalties may be imposed under M.G.L. c. 21A, § 16 for each violation of M.G.L. c. 21E, the MCP, or any order, permit or approval issued thereunder.

BACKGROUND

The above-referenced disposal site was originally reported on October 3, 2003 pursuant to 310 CMR 40.0315, due to the discovery of chlorinated volatile organic compounds (CVOCs) in soil and groundwater. MassDEP assigned the Release Tracking Number (RTN) 3-23246 at that time.

An indoor air sample was collected from the office portion of the building located at 50 Tufts Street on September 21, 2004, and an Imminent Hazard Evaluation was conducted using the analytical results. The indoor air level was determined to potentially pose an Imminent Hazard to the commercial workers in the building at the time. The information was provided to MassDEP as a 2-hour notification on October 22, 2004, and was assigned RTN 3-24358.

On October 29, 2004, MassDEP received documents which indicated additional environmental assessment had been conducted to further delineate the disposal site. This included the installation of 6 additional groundwater monitoring wells along Tufts Street. Testing of the groundwater in these wells showed concentrations of Volatile Organic Compounds in excess of 5 milligrams per liter in groundwater less than 15 feet below ground surface and within 30 feet of occupied residential structures. RTN 3-24376 was assigned to the release condition. Due to these results, MassDEP conducted indoor air testing in seven (7) potentially affected homes on Tufts Street. Results indicated that two (2) homes were impacted by the release, and MassDEP determined that remedial activities needed to be conducted.

MassDEP determined that a Condition of Substantial Release Migration, as described in 310 CMR 40.0006, exists at the site and required the initiation of an Immediate Response Action. Pursuant to 310 CMR 40.0412(3), Immediate Response Actions (IRA) shall be conducted at sites where a Condition of Substantial Release Migration has been identified. Such response actions are required to prevent or mitigate Critical Exposure Pathways, as stated in 310 CMR 40.0414(3) and 40.0414(4).

NECESSARY RESPONSE ACTIONS

MassDEP has determined that a possible Imminent Hazard exists at the 50 Tufts Street site as described in 310 CMR 40.0321(2). Pursuant to 310 CMR 40.0412(1), an Immediate Response Action shall be conducted at sites where a release or threat of release of any oil and/or hazardous material has occurred, in any quantity or concentration that poses or could pose an Imminent Hazard.

MassDEP has also determined that a Condition of Substantial Release Migration (SRM) and a Critical Exposure Pathway (CEP), both described in 310 CMR 40.0006, exist at the subject site. Pursuant to 310 CMR 40.0412(3), Immediate Response Actions shall be conducted at sites where a condition of Substantial Release Migration has been identified. 310 CMR 40.0414(3) states that "Immediate Response Actions shall be presumed to require the elimination and/or mitigation of Critical Exposure Pathways...". Currently Somerville Two, LLC (a fiduciary currently controlling the property, see section entitled "Identification of Other Potentially Responsible Parties" below) has been conducting response actions to address the SRM.

You, as a Potentially Responsible Party for this release, may undertake the necessary Immediate Response Actions at this site in lieu of MassDEP provided that you submit to this Office, within sixty (60) days from the date of this letter, an Immediate Response Action (IRA) Plan prepared in accordance with 310 CMR 40.0424. An IRA Plan for each release must be submitted to MassDEP. The IRA Plans may be combined into one if desired. At a minimum, the Immediate Response Action Plan(s) must outline the following:

- The opinion of a Licensed Site Professional stating whether or not an Imminent Hazard actually exists at this site, or if such an opinion cannot be rendered, a description of the assessment activities that have been taken and are planned to be taken to determine if an Imminent Hazard exists at this site.
- A monitoring plan for the properties located at 17 and 19 Tufts Street, in which remedial work has been conducted. At a minimum quarterly indoor air testing must be done.
- A monitoring plan for the properties located at 9, 11/13, 23, 25 and 27 Tufts Street to ensure additional residences are not affected by site conditions.
- An evaluation of the potential for impact to additional receptors.
- A description of any other steps you plan to take to address these IRA conditions.

The services of a Licensed Site Professional must be engaged to conduct these activities within the following specified time periods:

1. Within two weeks of the date of your receipt of this letter, an Imminent Hazard Evaluation must be initiated to determine if an Imminent Hazard actually exists at the subject site. In accordance with 310 CMR 40.0426(3), an LSP opinion on whether an Imminent Hazard exists at the site must be submitted to MassDEP within sixty (60) days of the date of this letter.

2. Within sixty (60) days from the date of this letter an Immediate Response Action Plan(s), prepared in accordance with 310 CMR 40.0410, must be submitted to MassDEP.

3. Within one (1) year of the date of this letter, a Response Action Outcome Statement or Tier Classification and Phase I Report must be submitted to MassDEP in accordance with 310 CMR 40.0404(3)(d).

Please note that the deadlines established for response actions and for the submission of the Immediate Response Action Plan(s) are being established as Interim Deadlines pursuant to 310 CMR 40.0167. If you fail to voluntarily undertake the response action(s) necessary at the subject site within the Interim Deadline established herein, MassDEP may perform such response actions and seek to recover MassDEP's costs and/or may initiate other appropriate enforcement actions to ensure that such response actions are conducted. MassDEP's decision to establish one or more Interim Deadlines in accordance with 310 CMR 40.0167 is not subject to M.G.L. c. 30A or any other law governing adjudicatory proceedings.

IDENTIFICATION OF OTHER POTENTIALLY RESPONSIBLE PARTIES

MassDEP has identified one Other Party associated with this site. As mentioned above, M.G.L. c. 21E liability is "strict", meaning it is not based on fault, but solely on a person's status as an owner, operator, generator, transporter or disposer. It is also joint and several, meaning that a person may be liable for all response action costs incurred at the site, regardless of the existence of any other liable parties. The following party has undertaken response actions as a fiduciary:

Somerville Two, LLC
c/o Lawson & Weitzen, LLP
88 Black Falcon Avenue
Suite 345
Boston, MA 02210-2424
ATTN: Clare B. Burhoe, Esq.

MassDEP encourages all parties listed here to contact one another in order to respond to this notification. A joint response would be acceptable to MassDEP. MassDEP encourages PRPs to take prompt action in response to releases and threats of release of oil and/or hazardous material. By taking prompt action, PRPs may significantly lower their assessment and cleanup costs and avoid the imposition of, or reduce the amount of, certain permit and annual compliance fees for response actions payable under 310 CMR 4.00.

GENERAL RESPONSE ACTION REQUIREMENTS

The subject site shall not be deemed to have had all the necessary and required response actions taken unless and until all substantial hazards presented by the site have been eliminated and a level of No Significant Risk exists or has been achieved in compliance with M.G.L. c. 21E and the MCP. In addition, the MCP requires persons undertaking response actions at disposal sites to perform Immediate Response Actions (IRAs) in response to "sudden releases", Imminent Hazards and Substantial Release Migration. Such persons must continue to evaluate the need for IRAs and notify MassDEP immediately if such a need exists.

You must employ or engage a Licensed Site Professional (LSP) to manage, supervise or actually perform the necessary response actions at the subject site. In addition, the MCP requires persons undertaking response actions at a disposal site to submit to MassDEP a Response Action Outcome Statement (RAO) prepared by an LSP in accordance with 310 CMR 40.1000 upon determining that a level of No Significant Risk already exists or has been achieved at a disposal site or portion thereof. (You may obtain a list of the names and addresses of these licensed professionals from the Board of Registration of Hazardous Waste Site Cleanup Professionals at (617) 556-1091 or on the worldwide web at http://mass.gov/lsp/lsphome.html.)

You should notify MassDEP in writing no later than 5:00 p.m. on November 22, 2005 if you intend to conduct the necessary activities and submit the required documents to MassDEP.

If you intend to undertake the necessary Immediate Response Actions at this site, you must notify Irene Dale of MassDEP's Northeast Regional Office (978)694-3397 of such an intent by no later than 5:00 p.m. on **November 22, 2005.** If you fail to provide this notice and to voluntarily undertake the response action(s) necessary at the subject site within the time periods established

herein, MassDEP may perform such response actions and seek to recover its costs and/or may initiate other appropriate enforcement actions to ensure that such response actions are conducted.

If you have any questions concerning the content of this letter, please contact Irene Dale at the letterhead address or at (617)654-6554 through November 11, 2005. Effective November 14, 2005 please contact Irene Dale at 205B Lowell Street, Wilmington, MA, 01887 or at (978)694-3397. All future communications regarding this release must reference the Release Tracking Number provided in the subject heading of this letter.

Very truly yours,

Irene M. Dale

Irene Dale
Environmental Engineer

Iris W. Davis

Iris W. Davis
Section Chief
Compliance/Risk Reduction Branch

cc: Clare B. Burhoe, Cburhoe@Lawson-Weitzen.com
Vithal Deshpande, Environmental Coordinator, vdeshpande@ci.somerville.ma.us
Mayor Josepth Curtatone, Somerville City Hall, 93 Highland Ave, Somerville, MA 02143
Ms. Noreen Burke, Somerville Board of Health, nburke@ci.somerville.ma.us
DEP data entry/file (NOR/ISSUED), (C&E/INTLET)

ATTACHMENT #1

STATUTORY LIABILITY PROVISIONS OF M.G.L. c. 21E

The following is provided to advise you of the liability provisions of M.G.L. c. 21E for assessing and remediating releases of oil and/or hazardous materials to the environment. You are advised to review the following section and determine if you are a Responsible Party for the subject release. If, after reading this section, you do not know if you are a Responsible Party, you are advised to seek legal counsel to help you in making this determination.

Section 5 makes the following parties liable to the Commonwealth of Massachusetts: current owners or operators of a site from or at which there is or has been a release/threat of release of oil or hazardous material; any person who owned or operated a site at the time hazardous material was stored or disposed of; any person who arranged for the transport, disposal, storage or treatment of hazardous material to or at a site; any person who transported hazardous material to a transport, disposal, storage or treatment site from which there is or has been a release/threat of release of such material; and any person who otherwise caused or is legally responsible for a release/threat of release of oil or hazardous material at a site.

This liability is "strict", meaning it is not based on fault, but solely on one's status as an owner, operator, generator, transporter or disposer. It is also joint and several, meaning that Responsible Parties may be liable for all response action costs incurred at the site, regardless of the existence of any other liable parties.

The 1993 MCP requires Responsible Parties to take necessary response actions at properties where there is or has been a release or threat of release of oil and/or hazardous material. If Responsible Parties do not take the necessary response actions, or fail to perform them in an appropriate and timely manner, MassDEP is authorized by M.G.L. c. 21E to have the work performed by its contractors.

Responsible Parties may be liable for up to three (3) times all response action costs incurred by MassDEP. Response action costs include, without limitation, the cost of direct hours spent by MassDEP employees arranging for response actions or overseeing work performed by persons other than MassDEP or their contractors, expenses incurred by MassDEP in support of those direct hours, and payments to MassDEP's contractors. (For more detail on cost liability, see 310 CMR 40.1200.)

MassDEP may also assess interest on costs incurred at the rate of twelve percent (12%), compounded annually. To secure payment of this debt, the Commonwealth may place liens on all property owned by a Responsible Party in the Commonwealth. To recover the debt, the Commonwealth may foreclose on these liens or the Attorney General may bring legal action against a Responsible Party.

In addition to liability for up to three (3) times all response action costs incurred by MassDEP, Responsible Parties may also be liable to the Commonwealth for damages to natural resources caused by the release. Civil and criminal liability may also be imposed under M.G.L. c. 21E, § 11, and civil administrative penalties may be imposed under M.G.L. c. 21A, § 16 for each violation of M.G.L. c. 21E, the MCP, or any order, permit or approval issued thereunder.

The Commonwealth of Massachusetts
Department of Environmental Protection
Northeast Regional Office
One Winter Street
Boston, Massachusetts 02108

CERTIFIED MAIL™

7003 3110 0001 6107 9566

Mr. Ronald D. Croatti
Unifirst Corporation
68 Jonspin Road
Wilmington, MA 01887

Name _____
1st Notice ____
2nd Notice ____
Return_____

UNITED STATES POSTAGE PITNEY BOWES
02 1A 0004351484 $ 03.95⁰ NOV 09 2005
MAILED FROM ZIPCODE 02108

Attachment F Notice of Responsibility for RTN 3-0026114

SCANNED

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

RELEASE LOG FORM

BWSC-101

Release Tracking Number: 3 - 26114

C. RELEASE OR THREAT OF RELEASE (TOR) INFORMATION: (continued)

Type of Release or TOR (check all that apply): ☐ Leak ☐ Spill ☐ Rupture ☐ Dumping ☐ Tank Removal ☐ Overfill ☐ Vehicle Accident ☐ Test Failure ☐ Fire ☐ Threat Only ☑ Unknown ☐ Other Specify:

Identify Media and Receptors Affected: (check all that apply) ☑ Air ☐ Groundwater ☐ Surface Water ☐ Sediments ☐ Soil ☐ Wetlands ☐ Storm Drain ☐ Paved Surface ☐ Private Well ☐ Public Water Supply ☐ Zone 2 ☐ Residence ☐ School ☐ Unknown ☐ Other Specify:

O or HM Released	(check one)	CAS # (if known)	Amount or Conc.	Units	RCs Exceeded?
Tetrachloroethylene	☐ O ☑ HM		125	ug/m3	
	☐ O ☐ HM				

Description of Release or Threat of Release:

High levels of PCE detected in the indoor air of 23 and 27 Tufts St. during quarterly sampling round. 23 Tufts= 125 ug/m3 in basement, 94.9 ug/m3 on 1st floor. 27 Tufts = 117 ug/m3 in basement, 3.8 ug/m3 on 1st floor.

D. PRP INFORMATION:

☐ PRP Unknown ☑ PRP Performing Response Actions ☐ Check here if additional involved parties are listed on an RLFA.

☐ PRP Unwilling or Unable to Perform Response Actions. Who is? ☐ DEP ☐ Other Person Who:

Name of PRP Organization: Unifirst Corporation

Name of PRP Contact: Brian Keegan Title: Sr. Engineering Manager

Street: 68 Jonspin Road ☐ Check here if this PRP received a field NOR.

City/Town: Wilmington State: MA ZIP Code: 01887

Telephone: (978) 658-8888 Ext.: 645 FAX:

E. CONTRACTOR:

Contractor Name: GEI Consultants Telephone Ext.:

Name of Contact: Mark Ensign ☐ Check here if this is a State Contractor.

F. LSP:

LSP Name: Ileen Gladstone LSP Number: 9719

Telephone (781) 721-4012 Ext.: FAX:

G. MCP RESPONSE ACTIONS: (check any that apply)

☐ IRA Assessment Only ☑ IRA Oral Plan Approved* ☐ IRA Oral Plan Denied ☐ IRA Pre-notification

☐ Oral RAM Plan Approved* ☐ Oral RAM Plan Denied ☐ Notice of Intent to Conduct a URAM

Date of Action, if different from Log Date: * Provide details of approved plans on an RLFA.

☐ Check here if soil was removed from the site prior to notification. ☐ Check here if the soil was removed as part of an UST closure.

Quantity of soil previously removed and destination:

H. DEP ASSIGNMENT:

RNF Submittal Requested: ☑ Yes ☐ No From Who: Brian Keegan

Provisions of 21E Explained: ☑ Yes ☐ No Why Not:

Prepared By: K. MacAfee Regional Use:

Number of RLFA Pages Attached: 1

Staff Lead Assigned (if different from Preparer): Irene Dale ☐ Check here if Release or TOR is unassigned.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-101

RELEASE LOG FORM

Release Tracking Number: 3 - 26114

A. LOG INFORMATION:

Log Date: 8/1/2006
Log Time: 11:50

Check one: ☑ AM ☐ PM

Use of Form: (check one)
☑ Initial Office
☐ Boston
☐ Amended

TYPE OF CALL (check one):
☑ Release or TOR
☐ Complaint ☐ Inquiry

CALLER (check one):
☐ PRP
☐ Public Safety Official
☐ Other Government Agency
☐ Citizen
☐ Anonymous
☐ LSP or PRP Agent
☐ Other Person:

Reporting Person: Ileen Gladstone
Telephone (781) 721-4012 Ext.:
Organization: GEI Consultants, Inc.

DISPOSITION OF CALL (check the one most applicable disposition below):

If selecting one of the two following options, assign a Release Tracking Number (RTN) in the space provided above:
☑ Reportable Release or Threat of Release
☐ Release or Threat of Release Less Than Reporting Threshold

Select one of the two following options only if an RTN was previously assigned:
☐ Release Notification Retraction (with BWSC-103 only)
☐ Not a 21E Release

If selecting any option below, do not assign an RTN:
☐ Release or Threat of Release Exempt from Reporting Requirements (not referred)
☐ Report Referred to Other Agency or Division
Referred To:
☐ No Action Taken ☐ Site Visit ☐ Compliance Site Visit

B. RELEASE OR THREAT OF RELEASE LOCATION:

Street: 50 Tufts Street Location Aid:
City/Town: Somerville Adequately Regulated Status: Fee Status:

Type of Location (check all that apply): ☑ Commercial ☐ Industrial ☑ Residential ☐ School ☐ Municipal ☐ State
☐ Federal ☐ Right of Way ☐ Roadway ☐ Water Body ☐ Open Space Other:

Release Tracking Number of Associated Transition or Tier Classified Site, if any:

C. RELEASE OR THREAT OF RELEASE (TOR) INFORMATION:

Notification Date, if different from log date:

"One Year" Status Date, if not one year after notification date:

Date and time reporting person obtained knowledge of the Release or TOR. 8/1/2006 Time 10:33 ☑ AM ☐ PM

IF KNOWN, record date and time Release or TOR occurred. Date: Time ☐ AM ☐ PM

Check all conditions that apply to the Release or Threat of Release:

2 HOUR REPORTING CONDITIONS
☐ Sudden Release
☐ Threat of Sudden Release
☐ Oil Sheen on Surface Water
☐ Poses Imminent Hazard
☑ Could Pose Imminent Hazard
☐ Release Detected in Private Well
☐ Release to Storm Drain
☐ Sanitary Sewer Release (Imminent Hazard Only)

72 HOUR REPORTING CONDITIONS
☐ Subsurface NAPL = or > 1/2 Inch
☐ UST Release
☐ Threat of UST Release
☐ Release to Groundwater near Water Supply
☐ Release to Groundweter near School or Residence

120 DAY REPORTING CONDITIONS
☐ Release of HM(s) to Soil or Groundwater > RC(s)
☐ Release of Oil to Soil > RC(s) and Affecting > 2 Cubic Yards
☐ Release of Oil to Groundwater > RC(s)
☐ Subsurface NAPL = or > 1/8 Inch and < 1/2 Inch
☐ Check here if Substantial Release Migration exists in connection with 120 Day Reporting Conditions

Source of Release or TOR (check all that apply): ☐ UST ☐ Pipe/Hose/Line ☐ AST ☐ Drums ☐ Transformer ☐ Boat
☐ Tanker Truck ☐ Vehicle ☑ Unknown ☐ Other Specify:

Federal LUST Eligible? ☐ Yes ☑ No ☐ Unknown DFS UST/AST Facility ID#
DFS UST/AST Tank ID#

SECTION C IS CONTINUED ON THE NEXT PAGE.

Massachusetts Department of Environmental Protection — **BWSC-102B**

Bureau of Waste Site Cleanup

RELEASE LOG FORM ATTACHMENT

Release Tracking Number: 3 - 26114

E. LOG/RELEASE LOCATION INFORMATION: (complete if using BWSC-102B only)

City/Town: Somerville Date: 08/01/2006 Time: 11:50 ☑ AM ☐ PM

Release Address: 50 Tufts Street

Use of Attachment (check one): ☐ Amendment to Release Log Form ☑ Attachment Page(s): 1 of: 1

F. INSPECTIONS OR SITE VISITS (also Follow-up Office Response): (check one)

☐ Initial Compliance Field Response - Announced ☐ Initial Compliance Field Response - Unannounced

☐ Compliance Field Response - Announced ☐ Compliance Field Response - Unannounced ☐ Field Audit Inspection

☐ Field Response - Direct Oversight ☐ Follow-up or Other Field Response ☐ Follow-up Office Response

G. ADDITIONAL DESCRIPTION:

H. DEP ASSIGNMENT: (complete if using BWSC-102A and 102B or BWSC-102B only)

Preparer of RLFA (please print): _____

Staff Lead Assigned (if different from preparer): _____

☐ Check here if the Release or Threat of Release is unassigned.

☐ Check here if this RLFA records a change in staff lead.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-102A

Release Tracking Number

3 - 26114

RELEASE LOG FORM ATTACHMENT

A. LOG/RELEASE LOCATION INFORMATION: (complete if using BWSC-102A and 102B or BWSC-102A only)

City/Town: Somerville Date: 08/01/2006 Time: 11:50 ☑ AM ☐ PM

Release Address: 50 Tufts Street

Use of Attachment (check one): ☐ Amendment to Release Log Form ☑ Attachment Page(s): 1 of: 1

B. ORAL PLAN SUMMARY: (check all that apply)

- ☐ Removal of Contaminated Soils
  - ☐ Re-use or Recycling
    - ☐ On Site ☐ Off Site Volume:_____ cubic yards
  - ☐ Treat ☐ On Site ☐ Off Site Volume:_____ cubic yards
    - Describe: _____
  - ☐ Store ☐ On Site ☐ Off Site Volume:_____ cubic yards
  - ☐ Landfill ☐ Cover ☐ Disposal Volume:_____ cubic yards
- ☐ Removal of Drums,Tanks or Containers
  - Describe: _____
- ☐ Removal of Other Contaminated Media
  - Specify Type and Volume: _____
- ☐ Other Response Actions Describe: _____
- ☐ Deployment of Absorbent or Containment Materials
- ☐ Temporary Covers or Caps
- ☐ Bioremediation
- ☐ Soil Vapor Extraction
- ☑ Structure Venting System
- ☐ Product or NAPL Recovery
- ☐ Groundwater Treatment Systems
- ☐ Air Sparging
- ☐ Temporary Water Supplies
- ☐ Temporary Evacuation or Relocation of Residents
- ☐ Fencing and Sign Posting

☐ Check here if this Release or Threat of Release is a candidate for future presumptive approval of an IRA or RAM Written Plan.

Check one of the following: ☑ Oral IRA Plan Approval ☐ Oral RAM Plan Approval ☐ Oral IRA Plan Modification Approval

Other Comments: Approved the resampling of air at the two impacted residences and inspection by engineers to evaluate mitigation techniques. As arrangements ~~for access need to be made, sampling could take up to 2 weeks to complete.~~ I approved the resampling, with the provision that unless the results documenting no IH exists, indoor air filtration systems will be employed ~~after sampling round #2, until results come back (and no IH found).~~

C. ADDITIONAL INVOLVED PERSON INFORMATION:

Check One: ☐ PRP ☐ PRP Local Contact ☐ Other Person Performing Response Action

☐ Other Relationship Specify: _____

Name of Organization: _____

Name of Contact: _____ Title: _____

Street: _____ ☐ Check here if this person received a field NOR.

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: _____

D. DEP ASSIGNMENT: (complete if using only BWSC-102A)

Preparer of RLFA (please print): K. MacAfee

Staff Lead Assigned (if different from preparer): Irene Dale

☐ Check here if the Release or Threat of Release is unassigned.

☐ Check here if this RLFA records a change in staff lead.

Attachment G RTN 3-0026114 BWSC102 Release Amendment Form

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC102

RELEASE AMENDMENT FORM

Release Tracking Number
3 - 26114

A. RELEASE/SITE LOCATION:

1. Site Name/Location Aid: NO LOCATION AID

2. Street Address: 50 TUFTS ST

3. City/Town: SOMERVILLE, SOMERVILLE 4. ZIP Code:

B. THIS FORM IS BEING USED TO: (check all that apply)

1. Date of Response(s): 3/7/2007 (mm/dd/yyyy) Start Time: 09:40 (hh:mm) ☐ AM ☑ PM

☐ 2. Record an **Initial Compliance Field Response - Announced.**
☐ 3. Record an **Initial Compliance Field Response - Unannounced.**
☐ 4. Record a **Compliance Field Response - Announced.**
☐ 5. Record a **Compliance Field Response - Unannounced.**
☐ 6. Record a **Field Response - Direct Oversight.**
☐ 7. Record a **Follow-up or Other Field Response.**
☑ 8. Record a **Follow-up Office Response.**
☐ 9. Identify or Update **a PRP or Other Person Associated with Release.** (Fill out Section E)
☐ 10. Correct or Add **Data to WSC Database** otherwise not specified on this form. (Record in Section C and, if needed, F)

C. DESCRIPTION OF ACTIVITIES RECORDED BY THIS FORM : (If additional lines are needed, record in Section F.)

THE DOWNGRADIENT PROPERTIES ASSOCIATED WITH THE 50 TUFTS STREET SITE ARE ALL BEING HANDLED UNDER RELEASE TRACKING NUMBER 3-26114 AND NOT WITH A NEW RTN FOR EACH ADDRESS. THIS IS DONE CONSISTENT WITH 310 CMR 40.0317, WHICH STATES IN PART THAT "THE FOLLOWING RELEASES ARE EXEMPT FROM THE NOTIFICATION REQUIREMENTS STATED IN 310 CMR 40.0300, " "(16)(B) A RELEASE NOTIFICATION WAS PREVIOUSLY PROVIDED TO THE DEPARTMENT FOR THE DISPOSAL SITE ON WHICH THE RELEASE HAS BEEN OBSERVED OR DOCUMENTED; AND (C) SUCH PRESENCE OF OIL AND/OR HAZARDOUS MATERIAL IS CONSISTENT WITH THE TYPES, NATURE, EXPOSURE POTENTIAL AND QUANTITIES OF OIL AND/OR HAZARDOUS MATERIAL FOR WHICH THAT NOTIFICATION WAS PROVIDED TO THE DEPARTMENT."

THE DOWNGRADIENT PROPERTIES LOCATED ON NEARBY STREETS MEET THESE CRITERIA AND WILL ALL BE HANDLED UNDER RTN 3-26114.

D. DEP STAFF AND FORM PREPARER:

1. DEP Staff: a. Name: DALE IRENE ☐ b. Check here, if Unassigned (or staff name not applicable).

2. Preparer Signature: IRENE DALE 3. Date: 03/07/2007

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

RELEASE AMENDMENT FORM

BWSC102

Release Tracking Number
3 - 26114

E. PRP OR OTHER PERSON ASSOCIATED WITH RELEASE :

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☐ c. new person associated with release

2. Name of Organization: UNIFIRST CORP

3. Contact First Name: BRIAN 4. Last Name: KEEGAN

5. Street: 68 JONSPIN RD 6. Title: ENV ENG MANAGER

7. City/Town: WILMINGTON 8. State: MA 9. ZIP Code: 01887-0000

10. Telephone: 8003477888 11. Ext.: 12. FAX:

13. Relationship of Person to Release: ☑ a. PRP ☐ b. Other c. Type PRP Generic or Non-specified

F. ADDITIONAL DESCRIPTION:

Attachment H Transmittal Letter and Form BWSC107 Linking RTN 3-0026114 to RTN 3-0023246

July 17, 2007
Project 045162

GEI Consultants

RECEIVED

JUL 18 2007

DEP
NORTHEAST REGIONAL OFFICE

Geotechnical
Environmental and
Water Resources
Engineering

Ms. Irene Dale
Massachusetts Department of Environmental Protection
Northeast Regional Office
Bureau of Waste Site Cleanup
205B Lowell Street
Wilmington, MA 01887

Dear Ms. Dale:

Re: Notice of Site (RTN 3-26114) Linked to Tier Classified Site (RTN 3-23246)
50 Tufts Street
Somerville, Massachusetts
RTNs: 3-26114 and 3-23246

On behalf of our client, UniFirst Corporation of Wilmington, Massachusetts (UniFirst), we prepared the attached Massachusetts Department of Environmental Protection (DEP) Tier Classification Transmittal Form BWSC107 that links the DEP listed site assigned Release Tracking Number (RTN) 3-26114 to the Tier Classified site assigned RTN 3-23246. This letter documents the linking of these two DEP listed sites. Both RTNs are associated with the detection of chlorinated volatile organic compounds (VOCs) at and in the vicinity of 50 Tufts Street in Somerville, Massachusetts (the Property).

On August 1, 2006, on behalf of UniFirst, we notified DEP of an Immediate Response Action (IRA) condition associated with the detections of tetrachloroethylene (PCE) in indoor air in two homes located along Tufts Street, and DEP assigned RTN 3-26114 to the condition.

We evaluated the affect of linking RTNs 3-26114 and 3-23246 to the original Numerical Ranking System (NRS) scoring for RTN 3-23246, which is a Tier IC Site. The linking does not change the NRS scoring or the tier classification; consequently, submitting a revised NRS score sheet to DEP is not required.

Please contact me at 781.721.4012 or igladstone@geiconsultants.com if you have any questions regarding the linking of RTN 3-26114 to RTN 3-23246.

Very truly yours,

GEI CONSULTANTS, INC.

Ileen Gladstone, P.E., LSP
Vice President

MCE/ISG:jah
Attachments

c: Brian Keegan, UniFirst
Peter Mills, City of Somerville

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000 fax: 781.721.4073

APPENDIX A
DEP IRA Transmittal Form (BWSC107)

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC107

TIER CLASSIFICATION TRANSMITTAL FORM

Pursuant to 310 CMR 40.0500 (Subpart E)

Release Tracking Number: 3 - 23246

A. DISPOSAL SITE LOCATION:

1. Disposal Site Name: 50 TUFTS ST & PROP ACROSS THE ST

2. Street Address: 50 TUFTS ST

3. City/Town: SOMERVILLE 4. ZIP Code: 02145-4129

B. THIS FORM IS BEING USED TO: (check all that apply)

☐ 1. Submit a new **Tier Classification Submittal for a Tier I Site**, including a **Numerical Ranking Scoresheet** (BWSC107A) (check one) A Tier I Permit Application must also be submitted.

☐ a. Tier IA ☐ b. Tier IB ☐ c. Tier IC

☐ 2. Submit a new **Tier Classification Submittal for a Tier II Site**, including the **Numerical Ranking Scoresheet** (BWSC107A) and the **Tier II Compliance History** (BWSC107B)

☐ 3. Submit a **Phase I Completion Statement** as per 310 CMR 40.0480

If previously submitted, provide date _____ mm/dd/yyyy

☐ 4. Submit a **Phase II Scope of Work** as per 310 CMR 40.0834

If previously submitted, provide date _____ mm/dd/yyyy

☐ 5. Submit a **Phase II Conceptual Scope of Work supporting a Tier Classification Submittal**

☐ 6. Submit a **Tier II Extension Submittal** for Response Actions at a Tier II Site including the **Tier II Compliance History** (BWSC107B)

☐ 7. Submit a **Tier II Transfer Submittal** for a change in person(s) undertaking Response Actions at a Tier II Site including the **Tier II Compliance History** (BWSC107B) and the **Tier II Transferor Certification** (BWSC107C)

Proposed effective date of transfer : _____
mm/dd/yyyy

☐ 8. Submit a **Revised Tier Classification Submittal,** including a **Numerical Ranking Scoresheet** (BWSC107A) . A Major Permit Modification may also need to be submitted.

If this revised submittal is re-classifying the site check the new classification.

☐ a. Tier IA ☐ b. Tier IB ☐ c. Tier IC ☐ d. Tier II

☑ 9. Submit a **Notice that an additional Release Tracking Number(s) is (are) being linked to this Tier Classified Site** (Primary RTN). Future response actions addressing the Release or Threat of Release notification condition associated with additional Release Tracking Numbers (RTNs) will be conducted as part of the Response Actions planned or ongoing at the Primary Site listed above. For a previously Tier Classified Primary Site, if there is a reasonable likelihood that the addition of the new secondary RTN(s) would change the classification of the site, a **Revised Tier Classification Submittal** must also be made.

Provide Release Tracking Number(s): a. 3 - 26114 b. ☐ - _____

All future Response Actions must occur according to the deadlines applicable to the Primary RTN. Use only the Primary RTN when making future submittals for this site unless specifically relating to response actions started before the linking occurred.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC107

TIER CLASSIFICATION TRANSMITTAL FORM

Pursuant to 310 CMR 40.0500 (Subpart E)

Release Tracking Number
3 - 23246

D. PERSON MAKING SUBMITTAL:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☐ c. change in the person undertaking response actions

2. Name of Organization: UNIFIRST CORP

3. Contact First Name: BRIAN 4. Last Name: KEEGAN

5. Street: 68 JONSPIN RD 6. Title: ENV ENG MANAGER

7. City/Town: WILMINGTON 8. State: MA 9. ZIP Code: 01887-0000

10. Telephone: 8003477888 11. Ext.: 12. FAX:

E. RELATIONSHIP OF PERSON MAKING SUBMITTAL TO DISPOSAL SITE:

☑ 1. RP or PRP ☐ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter

☑ e. Other RP or PRP Specify: OTHER PRPS

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Making Submittal Specify Relationship:

F. REQUIRED ATTACHMENT AND SUBMITTALS:

☐ 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

☑ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of any Phase Reports to DEP.

☑ 3. Check here to certify that a Legal Notice of a Tier Classification or Re-classification Submittal has been or will be made according to 310 CMR 40.1403, and a copy of the notice sent to DEP, the Chief Municipal Officer and the Local Board of Health.

☐ 4. For a Tier II Extension Submittal, check here to certify that a statement summarizing why a Permanent or Temporary Solution has not been achieved at the Disposal Site is attached.

☐ 5. For a Tier II Transfer Submittal, check here to certify that a statement summarizing the reasons for the proposed change in person(s) undertaking the Response Actions is attached. All Response Actions must be completed by the deadline applicable to the person who first filed either a Tier Classification Submittal for the Disposal Site or received a Waiver of Approvals.

☐ 6. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to the DEP Regional Office.

☑ 7. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC107

TIER CLASSIFICATION TRANSMITTAL FORM
Pursuant to 310 CMR 40.0500 (Subpart E)

Release Tracking Number
3 - 23246

G. CERTIFICATION OF PERSON MAKING SUBMITTAL:

1. I, **BRIAN KEEGAN** , attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

If submitting a Tier II Classification, Extension or Transfer, I also attest under the pains and penalties of perjury that (i) I/the person(s) or entity(ies) on whose behalf this submittal is made has/have personally examined and am/is familiar with the requirements of M.G.L. c. 21E and 310 CMR 40.0000; (ii) based upon my inquiry of the/those Licensed Site Professional(s) employed or engaged to render Professional Services for the disposal site which is the subject of this Transmittal Form and of the person(s) or entity(ies) on whose behalf this submittal is made, and my/that person's(s') or entity's(ies') understanding as to the estimated costs of necessary response actions, that/those person(s) or entity(ies) has/have the technical, financial and legal ability to proceed with response actions for such site in accordance with M.G.L. c. 21E, 310 CMR 40.0000 and other applicable requirements; and (iii) that I am fully authorized to make this attestation on behalf of the person(s) or entity(ies) legally responsible for this submittal. I/the person(s) or entity(ies) on whose behalf this submittal is made is aware of the requirements in 310 CMR 40.0172 for notifying the Department in the event that I/the person(s) or entity(ies) on whose behalf this submittal is made learn(s) that it/they is/are unable to proceed with the necessary response actions.

2. By: **BRIAN KEEGAN** (Signature) 3. Title: **ENV ENG MANAGER**

4. For: **UNIFIRST CORP** (Name of person or entity recorded in Section D) 5. Date: **07/17/2007** mm/dd/yyyy

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section D.

7. Street: _____

8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____

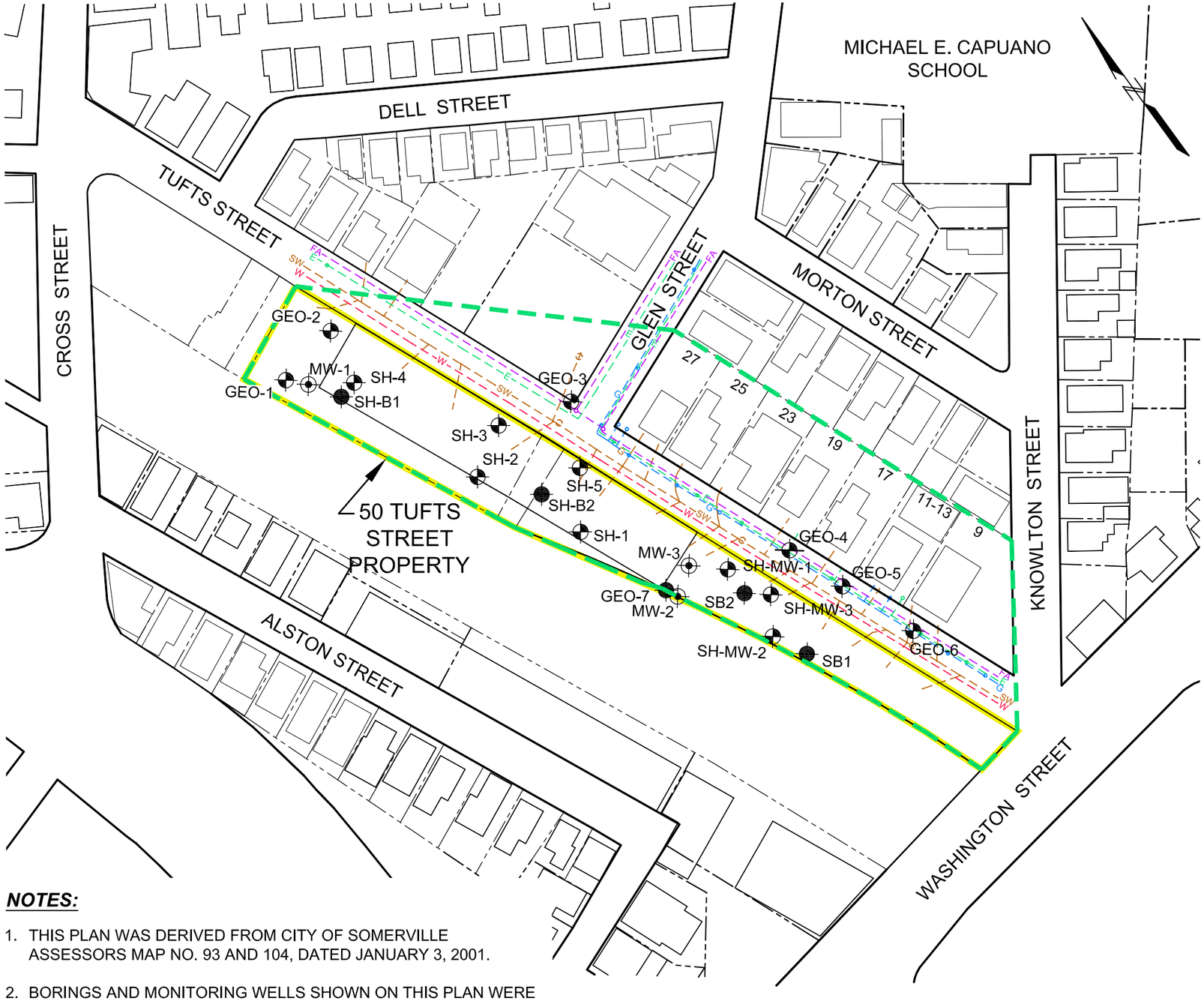
11. Telephone: _____ 12. Ext.: _____ 13. FAX: _____

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO $10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY):

7/17/2007 12:27:45 PM

Attachment I (2006) Phase I ISI Preliminary Site Boundary



LEGEND:

SH-1	MONITORING WELLS INSTALLED UTILIZING GEOPROBE ADVANCEMENT METHODS BY ENVIRONMENTAL DRILLING, INC. OF STERLING, MASSACHUSETTS ON 6/21/02. BORING AND WELL CONSTRUCTION WERE OBSERVED AND LOGGED BY SHA PERSONNEL.
SH-B1	BORING ADVANCED UTILIZING GEOPROBE ADVANCEMENT METHODS BY ENVIRONMENTAL DRILLING, INC. OF STERLING, MASSACHUSETTS ON 6/21/02. BORING AND WELL CONSTRUCTION WERE OBSERVED AND LOGGED BY SHA PERSONNEL.
SH-MW-1	MONITORING WELLS INSTALLED UTILIZING 6" ID AUGER ADVANCEMENT METHODS BY ENVIRONMENTAL DRILLING, INC. OF STERLING, MASSACHUSETTS ON 7/3/02. BORING AND WELL CONSTRUCTION WERE OBSERVED AND LOGGED BY SHA PERSONNEL.
MW-1	PRE-EXISTING MONITORING WELLS BY SHA PERSONNEL.
GEO-1	MONITORING WELLS INSTALLED BY GEOSIGHT PERSONNEL, AUGUST 2004.
SB1, GEO-7	SOIL BORING INSTALLED BY GEOSIGHT PERSONNEL, AUGUST 2004.
SW	APPROXIMATE SEWER LINE AND MANHOLE
E	APPROXIMATE ELECTRIC LINE AND MANHOLE
G	APPROXIMATE GAS LINE AND MANHOLE
FA	APPROXIMATE FIRE ALARM LINE AND MANHOLE
W	APPROXIMATE WATER LINE
	PRELIMINARY SITE BOUNDARY

NOTES:

1. THIS PLAN WAS DERIVED FROM CITY OF SOMERVILLE ASSESSORS MAP NO. 93 AND 104, DATED JANUARY 3, 2001.
2. BORINGS AND MONITORING WELLS SHOWN ON THIS PLAN WERE TRANSPOSED FROM A DRAFT PLAN PREPARED BY GEOINSIGHT TITLED "SITE PLAN," DATED 8/23/04.
3. APPROXIMATE UTILITIES LOCATIONS BASED ON A PLAN PREPARED BY GEOINSIGHT TITLED "SITE PLAN", DATED 8/9/04.

0 100 200

SCALE, FEET

Phase I Initial Site Investigation and Tier Classification
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

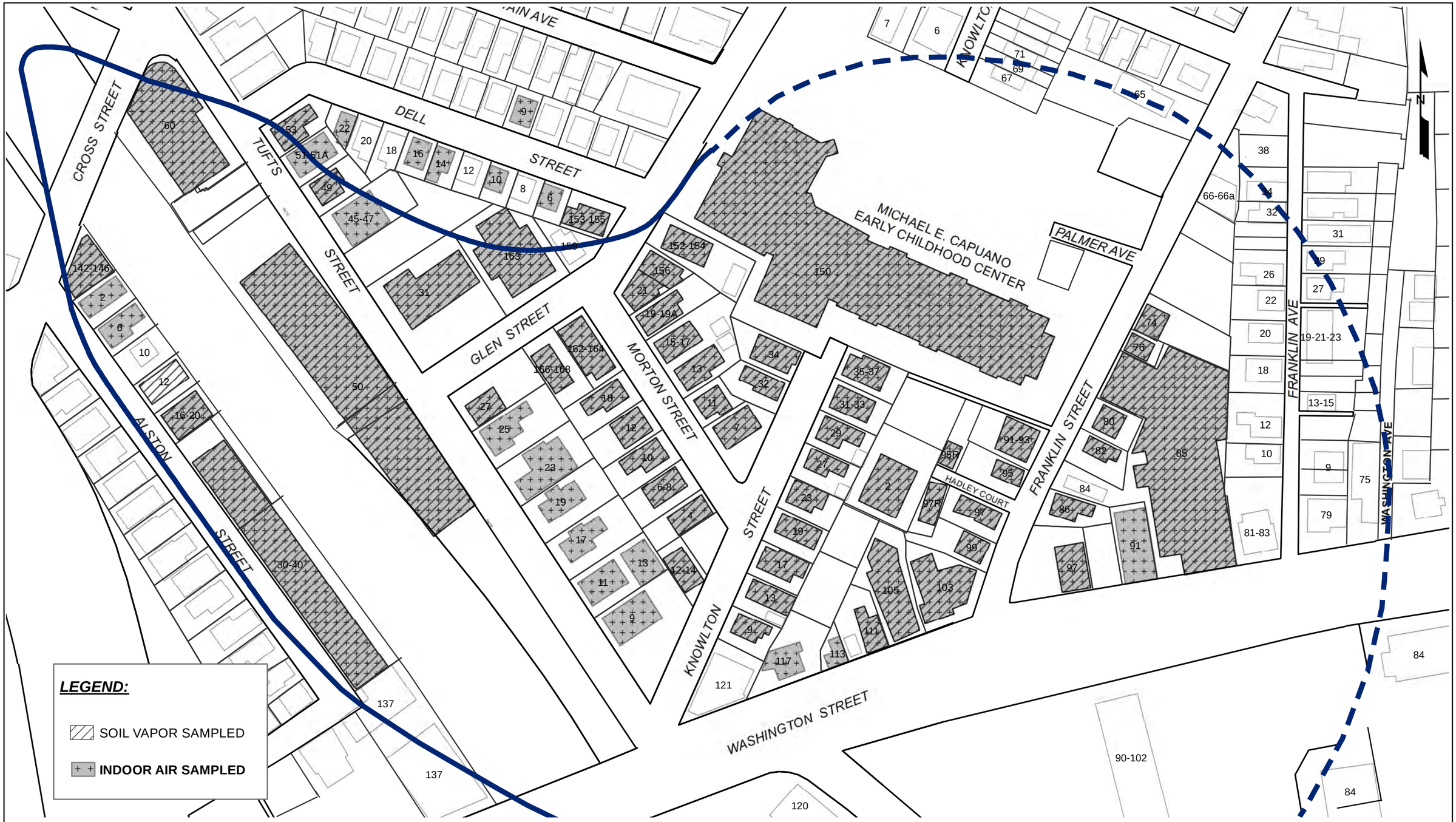
GEI Consultants

SITE PLAN

Project 04516-0 | June 2006 | Fig. 2

N: 045160-14 djm/ptc 6/1/06

Attachment J Extent of Indoor Air Testing Within the Disposal Site Boundary



MassDEP Notification Requirements Letter
50 Tufts Street, Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

SUB-SLAB SOIL VAPOR ND
INDOOR AIR SAMPLING

Project 04516-3 | October 2024 | Fig. 1

B:\Private\04516\20.0 GIS Data\Map_Files\Tufts_St_GIS_Master_Map_Feb2021.mxd

Coner, Chris

From: Friedmann, Andrew (DEP) <andrew.friedmann@mass.gov>
Sent: Friday, December 13, 2024 3:25 PM
To: Gladstone, Ileen
Cc: Catherine Malagrida; Forrest, Molly; Coner, Chris; Worrall, Eric (DEP)
Subject: [EXT] RE: Notification Requirements Followup

EXTERNAL EMAIL

Hello Ilene,

I have received your letter will upload it to the data portal under RTN 3-23246.

I have discussed the notification exemptions that you raise in the letter with my colleagues and confirmed MassDEP's position as follows:

The notification exemption under 310 CMR 40.0317(16) does not apply at a site when an SRM condition, described under 310 CMR 40.0313(4)(f), is identified for a building for which a 2-hour or 72-hour notification has not previously been made. MassDEP considers that the exposure potential at such a building is not consistent with those at other buildings at the site for which a notification under 310 CMR 40.0317(16) was previously provided to MassDEP. This is because exposures associated with vapor intrusion vary significantly from building to building. Additionally, in many such cases the concentrations of volatile organic compounds in groundwater are not consistent with those at other buildings for which a notification has been made.

The March 7, 2007, MassDEP follow-up office response that you present with your letter is not correct. That said, I recognize that you have, until now, proceeded in a manner consistent with that response. I will document this follow-up in our data portal to correct the record on this issue.

Regards,

Andy

Andrew Friedmann, Ph.D.
Section Chief, Site Management and Data Management
MassDEP, Northeast Regional Office
617.894.3543

From: Gladstone, Ileen <IGladstone@geiconsultants.com>
Sent: Friday, November 22, 2024 10:43 AM
To: Friedmann, Andrew (DEP) <andrew.friedmann@mass.gov>
Cc: Catherine Malagrida <Catherine_Malagrida@unifirst.com>; Forrest, Molly <mforrest@geiconsultants.com>; Coner, Chris <CConer@geiconsultants.com>; Johnson, Stephen (DEP) <stephen.johnson@mass.gov>
Subject: Notification Requirements Followup

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Andy
The attached letter is a detailed response to our previous correspondence regarding potential notification requirements associated with new construction and building renovation at the 50 Tufts Street Site in Somerville (RTN 3-23246). Please feel free to reach out if you would like to discuss further.
Ileen

GEI
ILEEN GLADSTONE
Senior Vice President
781.721.4012 cell: 781.424.9924
400 Unicorn Park Drive | Woburn, MA 01801

Forrest, Molly

From: Gladstone, Ileen
Sent: Friday, January 10, 2025 4:05 PM
To: Friedmann, Andrew (DEP)
Cc: Catherine Malagrida; Forrest, Molly; Coner, Chris; Worrall, Eric (DEP)
Subject: RE: Notification Requirements Followup

Eric and Andy
I would like additional clarification to the Department's statement that the notification exemption of 310 CMR 40.0317(6) was incorrectly applied by MassDEP in 2007, why the 2004 notification of a Condition of Substantial Release Migration (SRM) associated with the release to groundwater from the 50 Tufts Site is not adequate for ongoing compliance, and the consequences of that determination, as the consequences are likely to be numerous. I recommend that we discuss this issue at the February 3 meeting.

Considering each residence, school, or daycare within a disposal site as a separate reporting condition without a newly identified imminent hazard, is inconsistent with more than two decades of MassDEP practice under the MCP. Your explanation that each building is a unique exposure pathway and therefore requires separate notification is a significant re-interpretation of the regulations. This interpretation threatens to turn the fundamentals of the MCP on its head by marking each potential exposure pathway as the notifiable condition and not each release.

The MCP itself provides otherwise. 310 CMR 40.0313(f) specifically states that it is the "**release** to the groundwater or to the vadose zone that have resulted or have the potential to result in the discharge of vapors into a School, Daycare or Child Care Center or occupied residence" that is the Condition of SRM, not each potential exposure pathway or receptor. A Condition of SRM must be evaluated across an entire disposal site once it is reported (since it is associated with a known disposal site) and should not require multiple reporting. This practice already has been followed at the Somerville site to great success, as exposures have consistently been mitigated and the area continues to thrive with commercial and residential redevelopment.

Although sub-slab soil vapor, indoor air or groundwater contamination may vary significantly from building to building across a disposal site, the factors and methodology for evaluating the exposure potential for these residential properties is consistent from building to building. The Department's own regulation acknowledges this consistency as it clearly was envisioned and captured in the reporting exemption as specified in 310 CMR 40.0317(16)(c), "the presence of oil and/or hazardous material is consistent with the types, nature, **exposure potential** and quantities of oil and/or hazardous material for which that notification was provided to the Department."

It is also not clear in your email if the Department is also asserting that the exemption in 310 CMR 40.0317(16) does not apply to 72-hour reporting conditions. However, the regulation is explicit that it applies to notifications "which would otherwise meet one or more of the sets of criteria set forth in 310 CMR 40.0313 through 310 CMR 40.0315 at a disposal site. We agree that the exemption would not apply to a 2-hour reporting condition, since that is defined in 310 CMR 40. 0312. However, 310 CMR 40.0313 defines releases which require notification within 72 hours, including a Condition of SRM.

As detailed in my letter of November 11, 2024, a condition of SRM associated with the disposal site was previously reported, and the Department's guidance as laid out in the Master MCP Q&A, dated 2018-01-18, makes it clear that reporting again is not required, and specifically applies this clarification to vapor intrusion scenarios.

> Where such prior notification was made and the criteria of the notification exemption at 310 CMR 40.0317(16)(a) through (c) are met, then no new notification of this condition is required (**i.e., the prior SRM notification was related to the same vapor intrusion exposure potential**).

In addition, according to the Q&A, even if additional reporting was conducted at the site:

> ...initiation of an Immediate Response Action (IRA) will not be required where response actions to address the potential vapor intrusion pathway are already completed or underway (i.e., any ongoing response actions can continue to be addressed as part of the assessment and remedial work that is already underway as a pre-existing/open IRA, Comprehensive Response Action or Release Abatement Measure).

Therefore, it is unclear what additional actions would be required since, at least until the Notice of Audit Findings and Notice of Noncompliance dated December 13, 2024, Comprehensive Response Actions were being conducted at the site, including addressing the Condition of SRM. GEI has continued to evaluate and mitigate the potential vapor intrusion pathway for new structures as part of Comprehensive Response Actions. We have assisted owners with the design and installation of vapor mitigation systems, provided LSP and MCP Compliance assistance, conducted post installation effectiveness testing, and prepared Partial Permanent Solutions with or without Conditions, all at UniFirst's expense. These measures have diligently been reported to the Department under the MCP's RAM Plan requirements.

MassDEP has overseen either directly or indirectly the 50 Tufts Street Site for 20 years. Since 2013, new multi-family homes have been constructed within the boundary of the disposal site and until this year, MassDEP has never suggested a new reporting requirement would be necessary for each new residence. The vapor mitigation controls associated with these redevelopment activities have been transparent and have been documented in the biannual status reports for the Site and RAM Plans, and Status and Completion Reports for the individual development projects. Unique reporting for individual residences has not been suggested (or required) for other vapor intrusion projects that I have been working on that have impacted multiple downgradient properties (RTN 3-36624/3-36671 and RTN 2-17845/2-17845). The direction currently stated in your e-mail below conflicts with existing regulations, with the Department's existing, published guidance, and with years of successful and protective practices at this Site. Because of the new deviation from these guiding principles, it is now unclear exactly when a new reporting condition will be triggered. We look forward to discussing this issue further during our February 3 meeting and understanding your position more fully.

Ileen

GEI
ILEEN GLADSTONE
Senior Vice President
781.721.4012 cell: 781.424.9924
400 Unicorn Park Drive | Woburn, MA 01801

From: Friedmann, Andrew (DEP) <andrew.friedmann@mass.gov>
Sent: Friday, December 13, 2024 3:25 PM
To: Gladstone, Ileen <IGladstone@geiconsultants.com>
Cc: Catherine Malagrida <Catherine_Malagrida@unifirst.com>; Forrest, Molly <mforrest@geiconsultants.com>; Coner, Chris <CConer@geiconsultants.com>; Worrall, Eric (DEP) <eric.worrall@mass.gov>
Subject: [EXT] RE: Notification Requirements Followup

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Andy

Andrew Friedmann, Ph.D.
Section Chief, Site Management and Data Management
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617.894.3543

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To: Friedmann, Andrew (DEP) <andrew.friedmann@mass.gov>
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Subject: Notification Requirements Followup

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Ileen

GEI
ILEEN GLADSTONE
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781.721.4012 cell: 781.424.9924
400 Unicorn Park Drive | Woburn, MA 01801

Arnold & Porter

Jeff Talbert
+1 212.836.7088 Direct
Jeff.Talbert@arnoldporter.com

January 27, 2025

VIA E-MAIL

Mr. Eric Worrall
Regional Director
Bureau of Waste Site Cleanup
MassDEP, Northeast Regional Office
eric.worrall@mass.gov

Re: RTN 3-23246 (50 Tufts Street, Somerville, Massachusetts)
Notice of Audit Findings and Notice of Non-Compliance

Dear Mr. Worrall:

I write on behalf of UniFirst Corporation ("UniFirst") to request that Massachusetts DEP ("MassDEP") withdraw the Notice of Audit Findings and Notice of Noncompliance (NON-NE-00019585) (the "NAFNON") related to the 50 Tufts Street Site in Somerville, Massachusetts, identified by RTN 3-23246 (the "Site") issued on December 12, 2024. The NAFNON was issued without prior notice or communication regarding its content, contains factual errors, and lacks a sufficient basis under Massachusetts Contingency Plan ("MCP"). UniFirst has requested a meeting with MassDEP, set for February 3, to better understand the NAFNON (several statements, requirements, and implications are unclear and require clarification), the MassDEP basis for issuing the NAFNON, and to discuss UniFirst's concerns with the NAFNON and a reasonable path forward. This meeting should move forward as planned. In the meantime, any deadlines in the NAFNON, including the February 12, 2025 Tier Extension submission deadline, should be extended.

Background and Concerns with the NAFNON

UniFirst has gone to great lengths to respond to the release at the Site identified more than two decades ago. During this time, UniFirst has worked closely and collaboratively through its Licensed Site Professional ("LSP") Ileen Gladstone and her team at GEI Consultants with potentially impacted property owners to eliminate exposure risks. UniFirst has also communicated regularly with MassDEP to provide updates on the status of work at the Site, make sure that UniFirst followed all appropriate procedures, and worked to address any MassDEP requests.

Despite these good faith efforts, MassDEP issued the NAFNON without prior notice or communication. This was particularly surprising and troubling since the Audit presumably began over eight years ago and UniFirst has worked to diligently comply with all requirements of the MCP. Although there is some uncertainty related to the NAFNON findings and implications, it appears to identify three broad deficiencies in the Site response: (1) the delineation of the groundwater contamination at the Site, (2) the performance of the remedy implemented to address the source of that contamination, and (3) the status of the mitigation systems that have been put in place to eliminate a potential vapor intrusion exposure pathway to the contamination. As a result, the NAFNON purports to revoke the Site's Remedy Operation Status which was achieved in 2011 through the Phase V ROS report, along with revocation of the Phase IV, Phase III, and Phase II reports that date back to 2008.

Though MassDEP elected not to impose monetary penalties in connection with the NAFNON, its directives in the NAFNON, including the repetition of the work previously captured by these reports and the preparation and resubmission of each of these four milestone reports, appear to impose exorbitant additional penalties with substantial prejudice to UniFirst. In particular, revoking the Site's Remedy Operation Status along with the Phase II through Phase IV reports would undo over 15 years of remedial work (that cost millions of dollars) as documented in the milestone reports to MassDEP.

Given the potential gravity of MassDEP's NAFNON, on December 30, 2024, GEI contacted MassDEP to arrange a meeting to discuss the NAFNON and the findings therein. MassDEP agreed to meet with UniFirst and GEI on February 3, 2025. GEI then provided an agenda for that meeting on January 17, 2025. On January 23, 2025, Dr. Friedmann responded by e-mail indicating that the agenda did not adequately identify UniFirst's and GEI's concerns with the NAFNON and announced that the February 3, 2025, meeting would be "suspended."

Dr. Friedmann also indicated that MassDEP is "sufficiently familiar" with the Site and its history that it does not "need to address the site history and ongoing investigations in such detail" at the meeting. As MassDEP's NAFNON is facially ambiguous and has potential sweeping draconian ramifications (eliminating 15 years of compliance work and progress at the Site) a meeting is not only warranted, it is necessary. A brief review of the site history simply provides context and helps ensure that a misunderstanding of the site history or gaps in information did not lead to issuance of the NAFNON.

Substantively, the following MassDEP's conclusions in the NAFNON are facially incorrect and alone warrant withdrawal of the NAFNON:

- MassDEP conclusions regarding delineation of the contamination and potential causes of any changes.
    - These conclusions ignore (or do not address) recent work performed by the Massachusetts Bay Transit Authority ("MBTA"), which explains the deviations in the lateral geographic shape of the plume observed since the initiation of that work.
- MassDEP's assessment of the effectiveness of the selected remedy for the Site.
    - Cumulative data trends across the Site demonstrate that the plume is stable or decreasing (this is evident in almost 95% of the monitoring wells).

Accordingly, UniFirst and GEI are prepared to address these conclusions and show why they are incorrect during the "Nature and Extent of Groundwater Contamination" portion of the meeting (see item number 3) of the proposed agenda.

UniFirst also has concerns regarding the substance and impact of the NAFNON that include but are not limited to: the revocation of ROS after more than 15 years and after 8 years of a pending audit; the weight placed on certain data likely to be significantly impacted by the MBTA work; the ability to collect samples from the "utility trench" (an artifact of construction that no longer exists) in Washington Street as instructed in the NAFNON, given the potential inaccessibility of that area; the methods used for evaluation of the effectiveness of the soil vapor extraction and monitored natural attenuation remedies; and the interpretation of the MCP to require unnecessary mitigation and unlimited new release reports with respect to conditions in which critical exposure pathways ("CEPs") previously were reported and addressed.

UniFirst has welcomed MassDEP's regular input on the Site over many years and has always agreed to be cooperative. The issuance of the NAFNON contains findings and conclusions that appear inconsistent with and unwarranted given the Site history, current data, and Massachusetts law. The Phase V Remedy Operation Status regulations in the MCP provide ample authority for a mature site like this one to account for minor changes to plume geography that result from construction activities in the area, to continue to evaluate the vapor phase exposure pathway as conditions and circumstances at the Site change (as UniFirst and GEI have been doing successfully through Remedial Abatement Measures performed in collaboration with neighbors within the disposal site, *at UniFirst's cost*), and to continue to evaluate and revisit the effectiveness of the selected remedy at the Site.

UniFirst requested a meeting with MassDEP in an attempt to resume cooperative discussions, narrow any issues, and to avoid unnecessary conflict. UniFirst continues to believe that a collaborative approach at this Site that emphasizes community coordination and incorporates MassDEP's expertise is preferable to litigation or appeals. We are hopeful that we can come to common ground regarding substantive work that can be implemented at the Site to address any of MassDEP's concerns with plume delineation, remedial performance, and mitigation measures in the community, and that this can be achieved through an agreed upon arrangement that does not undermine the many years of significant, successful environmental response at this Site.

Towards this end, UniFirst requests that the February 3, 2025 meeting proceed as planned. UniFirst can address the items in its proposed agenda (sent previously) along with any items MassDEP would like to discuss, including UniFirst's request that MassDEP withdraw the NAFNON to avoid the drastic penalty of revoking over 15 years of Site work.

In the interim, UniFirst respectfully requests that MassDEP extend the deadlines in the NAFNON, including the February 12, 2025, Tier Extension submission deadline. We look forward to meeting with MassDEP on February 3 and discussing a reasonable resolution of MassDEP's concerns with the site work that will ensure protection of human health and the environment.

Sincerely,

Jeffrey D. Talbert

cc: Andrew Friedmann, Ph.D., MassDEP
Maureen Vallantini, Esq., MassDEP
Millie Garcia-Serrano, MassDEP
Cat Malagrida, UniFirst
Michael Patrick, Esq., UniFirst
Ileen Gladstone, GEI
Garrett Trego, Esq., Manko Gold Katcher & Fox LLP

Arnold & Porter

Jeff Talbert
+1 212.836.7088 Direct
Jeff.Talbert@arnoldporter.com

February 18, 2025

VIA E-MAIL

Mr. Eric Worrall
Regional Director
Bureau of Waste Site Cleanup
MassDEP, Northeast Regional Office
eric.worrall@mass.gov

Re: RTN 3-23246 (50 Tufts Street, Somerville, Massachusetts)
Notice of Audit Findings and Notice of Non-Compliance

Dear Mr. Worrall:

Thank you for meeting with UniFirst on February 3, 2025, to discuss the Notice of Audit Findings and Notice of Noncompliance (NON-NE-00019585) (the "NAFNON") related to the 50 Tufts Street Site in Somerville (the "Site"). We appreciate Massachusetts Department of Environmental Protection's ("MassDEP's") extension of the NAFNON deadlines by thirty (30) days, moving the first deadline for submission of a Tier Extension in accordance with 310 CMR 40.0560(7) from February 12 to March 14, 2025.

As discussed in the meeting, several key findings and conclusions in the NAFNON appear to be the result of a misunderstanding of the site and relevant data. Following our initial discussion of the issues at a high-level during the February 3 meeting, we agreed that UniFirst would share the materials from the meeting with MassDEP and that we would schedule a second meeting to discuss the issues and MassDEP's initial questions at a greater depth. UniFirst will appreciate the opportunity to further demonstrate that the groundwater data showing stable or declining concentrations in the plume (on time scales expected for monitored natural attenuation of VOCs), though we continue to acknowledge that the Massachusetts Bay Transit Authority's construction activities have had an impact on plume geography. We propose a meeting on either February 27 or 28 to further discuss these and other issues raised by the NAFNON.

UniFirst is confident that the site data demonstrate the effectiveness of the existing soil vapor extraction and monitored natural attenuation remedies, consistent with the remedial alternatives analysis and remedy selection submitted to MassDEP more than a

decade ago. The Site's Remedy Operation Status provides adequate mechanisms for continued monitoring of the plume and continued evaluation of any potential exposure pathways to ensure mitigation of risks. The severe penalties in the NAFNON, including revocation of the Phase II through Phase V reports, remain unwarranted, needlessly negating over fifteen years of collaborative, costly remedial work and progress at the Site.

Please let us know which of these dates work for you. Again, we appreciate your time and willingness to discuss an amicable path forward that avoids any unnecessary conflict and continues to ensure protection of human health and the environment.

Sincerely,

Jeffrey D. Talbert

cc: Andrew Friedmann, Ph.D., MassDEP
Maureen Vallantini, Esq., MassDEP
Millie Garcia-Serrano, MassDEP
Cat Malagrida, UniFirst
Michael Patrick, Esq., UniFirst
Ileen Gladstone, GEI
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Commonwealth of Massachusetts
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March 13, 2025

Jeffrey Talbert, Esquire
Arnold & Porter
250 West 55th Street
New York, NY 10019-9710

RE: Somerville – 50 Tufts Street
NOAF/NON dated December 12, 2024
Release Tracking Number 3-0023246

Via Electronic Mail: Jeff.Talbert@arnoldporter.com

Dear Mr. Talbert,

Thank you for meeting with the Department of Environmental Protection ("MassDEP/Department") on February 3, 2025, and for providing additional information to supplement your January 27, 2025 letter requesting the Department withdraw the Notice of Audit Findings/Notice of Noncompliance ("NOAF/NON") issued by MassDEP to UniFirst Corporation ("UniFirst") on December 12, 2024. We have considered the issues raised, reviewed the additional information provided, and determined that the NOAF/NON will remain in effect.

The January 27, 2025 letter raised two primary objections to the NOAF/NON.

1. UniFirst asserts that the conclusions regarding delineation of the contamination and potential causes of any changes have not considered recent work performed by the Massachusetts Bay Transit Authority ("MBTA").
2. UniFirst asserts that MassDEP's assessment of the selected remedy for the Site is incorrect.

We will address each issue separately.

First, with regard to the MBTA, the Department reviewed the information provided at the February 3, 2025 meeting and reached out to the MBTA. UniFirst raised issues regarding the work MBTA completed addressing the Green Line Extension Project. In particular, UniFirst is concerned about the installation of a perforated pipe in the area of Washington Street. UniFirst maintains that a perforated pipe that runs from the Washington Street Bridge drainage system to a holding chamber, identified as WS-212, has impacted plume migration at the Site.

In discussions with the MBTA, it was confirmed that at the time of installation of the perforated pipe and WS-212 the outflow from Structure WS-212 was plugged. After installation, the connection between the pipe and the chamber has been closed. Therefore, water in the pipe is confined within the surrounding water table and the pipe is not influencing migration of the plume.

Secondly, with regard to Department's assessment of the selected remedy, MassDEP has considered the information provided at the meeting on February 3, 2025, and in your letters dated January 27, 2025, and February 18, 2025. UniFirst concludes that the groundwater data show stable or declining concentrations of chlorinated solvents in overburden and bedrock groundwater monitoring wells, that the DNAPL and the chlorinated solvent plume are stable, and that the selected remedy is adequately designed to achieve a Permanent Solution. MassDEP does not agree that the currently available Site information adequately supports these conclusions. Considerable data gaps exist at the Site. In particular, the vertical extent of contamination at the Site has not been well characterized. The presence of data gaps limits any conclusion regarding plume stability, DNAPL source stability, and raises additional questions about the appropriateness of UniFirst's trend analysis.

Finally, we want to clarify that the Department has assessed no penalties for the noncompliance cited in the NOAF/NON. Nor has MassDEP revoked the prior Comprehensive Response Action Reports submitted for the Site. Those prior documents remain as part of the overall Comprehensive Response Actions taken at the Site, but must be appropriately supplemented to meet the performance standards of the MCP.

MassDEP seeks to continue working cooperatively with UniFirst. In our February 3, 2025 meeting with UniFirst, we agreed to extend the deadline established in the NOAF/NON for the submittal of the Tier Classification Extension from February 12, 2025 to March 14, 2025. In a March 10, 2025 email, you requested a sixty day extension for submittal of the Tier Classification Extension. The deadline for submittal of the Tier Classification Extension Submittal will be extended to April 14, 2025. Once the Tier Classification Extension has been submitted to MassDEP, the Department is willing to meet with UniFirst to discuss addressing the noncompliance issues described above.

Sincerely,

Eric Worrall
Regional Director
Bureau of Waste Site Cleanup

E-copy

Somerville, Board of Health, (health_webcontact@somervillema.gov)
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March 28, 2025

VIA E-MAIL

Mr. Eric Worrall
Regional Director
Bureau of Waste Site Cleanup
MassDEP, Northeast Regional Office
eric.worrall@mass.gov

Re: RTN 3-23246 (50 Tufts Street, Somerville, Massachusetts)
Notice of Audit Findings and Notice of Non-Compliance

Dear Mr. Worrall:

UniFirst is in receipt of your March 13 letter. As you know, shortly after the February 3 meeting to discuss the Notice of Audit Findings and Notice of Noncompliance (NON-NE-00019585) (the "NAFNON") related to the 50 Tufts Street Site in Somerville (the "Site"), UniFirst provided information requested during that meeting, proposed dates for a follow-up meeting to address issues MassDEP raised during the February meeting, and requested an extension of the NAFNON deadlines. Although UniFirst appreciates MassDEP's agreement to extend the first deadline for submission of a Tier Extension in accordance with 310 CMR 40.0560(7) to April 14, 2025, your letter requests that UniFirst submit the Tier Extension before MassDEP will meet with UniFirst again. Although UniFirst wants to work with MassDEP to advance work at the Site, it continues to disagree with MassDEP's conclusions regarding the technical understanding of current conditions at the site and does not understand, based on MassDEP's various communications, what executing the Tier Extension means for this Site and the process going forward.

For example, your March 13 letter states that MassDEP has not "revoked the prior Comprehensive Response Action Reports submitted for the Site" and that those documents remain as part of the Site actions, but "must be appropriately supplemented to meet the performance standards of the MCP." March 13, 2025 Letter at 1. This statement appears to conflict with the December 2024 NAFNON, which purported to revoke UniFirst's Phase

V Remedy Operation Status and directed UniFirst to submit revised versions of the Phase II, Phase III, Phase IV reports, which were originally submitted more than a decade ago. These statements raise several questions, such as the following: What supplemental information is necessary? Will the Site remain in its current Phase V? If not, what phase would the Site be in after submittal of the Tier Extension? What implications does executing the Tier Extension have, if any, on the current remedial selection?

We think that these and other important questions are best addressed in a call or meeting so that UniFirst understands the path forward and what execution of the Tier Extension means for this Site. At such a meeting, the parties can also discuss the substantive issues raised, but not fully addressed, at the February meeting and in your March 13 letter. For example, your letter provides some insights from a discussion with MBTA, but certain statements related to the vault raise several new questions, including the following. If the vault and perforated pipe was plugged, when did this occur? If the vault operated for a period of time with the perforated pipe in place, couldn't that have impacted groundwater flow and changed the plume as GEI has observed? If the plume did change as a result of MBTA work and operations, which have now ceased, does that further support the current stability of the plume, as GEI presented, by removing the feature that may have pulled the plume toward Washington Street? These and other questions are worth discussing, so that MassDEP and UniFirst may continue to work toward a mutual understanding of the technical issues at the site.

In addition, in response to MassDEP questions at the February meeting, UniFirst has prepared additional responsive information related to the performance of the remedy and stability of the plume, which warrant discussion. Your March 13 letter raises a new focus on the issue of *vertical* delineation of the plume. This issue was not raised to any meaningful extent in the NAFNON or discussed at our prior meeting or in any prior communications.

UniFirst has worked for several decades now to address contamination at the Site. It has worked diligently through numerous response action phases, and before receiving the NAFNON, not only thought that it had provided all the information MassDEP needed on the Site, but that this mature Site was progressing appropriately by maintaining conditions of No Significant Risk and working with the community to accommodate development and changes within the Site. If the MassDEP's NAFNON and the execution of the Tier Extension represents a significant change in the Site direction, it is fair and reasonable for UniFirst to first understand exactly what MassDEP expects from UniFirst to resolve the NAFNON. Therefore, UniFirst respectfully requests that MassDEP meet with UniFirst again prior to the new April 14 deadline to continue our discussion of the

technical issues at the Site and explain exactly what executing the Tier Extension means for this Site and the process going forward.

Sincerely,

Jeffrey D. Talbert

cc: Andrew Friedmann, Ph.D., MassDEP
Maureen Vallantini, Esq., MassDEP
Millie Garcia-Serrano, MassDEP
Cat Malagrida, UniFirst
Michael Patrick, Esq., UniFirst
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April 16, 2025

Jeffrey Talbert, Esquire
Arnold & Porter
250 West 55th Street
New York, NY 10019-9710

RE: Somerville – 50 Tufts Street
NOAF/NON dated December 12, 2024
Release Tracking Number 3-0023246

Via Electronic Mail: Jeff.Talbert@arnoldporter.com

Dear Mr. Talbert,

Thank you for your letter to the Massachusetts Department of Environmental Protection ("MassDEP" or "Department") dated March 28, 2025 regarding the December 12, 2014 Notice of Audit Findings/Notice of Noncompliance ("NOAF/NON") issued by MassDEP to UniFirst Corporation ("UniFirst"). MassDEP would like to provide a preliminary response to the questions raised in your most recent letter. Specifically:

1. What supplemental information is necessary?

   The supplemental information required is presented and discussed in the NOAF/NON. For example, UniFirst will need to provide a revised Phase II - Comprehensive Site Assessment that meets the requirements of 310 CMR 40.0835. In order to meet the requirements of a revised Phase II, Unifirst must include characterization of the vertical nature and extent of contamination in the source area. If there are specific technical considerations that you wish to discuss, please provide a written summary of those issues.

2. Will the Site remain in its current Phase V?

   Remedy Operation Status has been terminated for the Site. As identified in the NOAF/NON, there are data gaps that need to be addressed. The supplemental information collected may impact the conclusions of the Phase II - Comprehensive Site Assessment, the Phase III – Identification, Evaluation and Selection of Comprehensive Remedial Action Alternatives and Phase IV - Remedy Implementation Plan. While the data is being collected and analyzed, there are on-going operation, maintenance and

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monitoring activities that must be documented and submitted to the Department. The use of Phase V Status Reports and Remedial Monitoring Reports to document these activities is appropriate, therefore the Site will be considered to be in Phase V.

3. What implications does executing the Tier Extension have, if any, on the current remedial selection?

   The MCP requires at 310 CMR 40.0893 (6)(e) that after the termination of Remedy Operation Status, response actions shall not be conducted without a valid Tier Classification Extension. A Tier Classification Extension is not required when the site has a valid Tier Classification or is in Remedy Operation Status. In accordance with 310 CMR 40.0560 (7)(g) when Remedy Operation Status is terminated, a Tier Classification Extension shall be submitted to the Department. The Tier Classification Extension allows the RP, PRP or Other Person to undertake response actions at the site. The results of those response actions may impact the current remedial selection, but the Tier Classification Extension itself means the RP, PRP or Other Person has approval to continue response actions in compliance with all applicable provisions of 310 CMR 40.0000.

4. If the vault and perforated pipe was plugged, when did this occur?

   August 2022.

5. If the vault operated for a period of time with the perforated pipe in place, couldn't that have impacted groundwater flow and changed the plume as GEI has observed?

   The Department's March 13, 2025 letter discussed operation of the vault. In summary, water in the pipe is confined within the surrounding water table and the pipe is not influencing migration of the plume. When the pipe was connected to the vault, groundwater was confined to the pipe and vault because groundwater was not discharged from the vault. The pipe/vault connection was a closed system that did not create an alternate flow pathway for groundwater.

6. If the plume did change as a result of MBTA work and operations, which have now ceased, does that further support the current stability of the plume, as GEI presented, by removing the feature that may have pulled the plume toward Washington Street?

   The NON describes multiple lines of evidence as to why the plume is not considered stable (see the first violation of the NON). If UniFirst asserts that PCE is no longer migrating toward the Washington Street Bridge area due to the cessation of MBTA work and operations, then appropriate groundwater testing would need to be provided to support that assertion. MassDEP's determination is that the other lines of evidence regarding source control and plume stability described in the NON are not related to MBTA work and operations.

In addition to your questions identified in the March 28, 2025 letter, you noted that UniFirst has prepared additional responsive information related to the performance of the remedy and stability of the plume, which warrant discussion. Additional information regarding plume

stability and performance of the remedy can be discussed as UniFirst prepares to conduct work for a revised Phase II - Comprehensive Site Assessment and a revised Phase III – Identification, Evaluation and Selection of Comprehensive Remedial Action Alternatives.

You also note that the Department's March 13, 2025 letter raises a new focus on the issue of vertical delineation of the plume and further assert that this issue was not raised to any meaningful extent in the NOAF/NON or discussed at our prior meeting or in any prior communications. The Department does not agree that this a new focus. The issue of vertical delineation of the plume relates directly to the violations and requirements presented in the NOAF/NON.

On February 11, 2025, UniFirst submitted a Status Report to maintain a Remedy Operation Status pursuant to 310 CMR 40.0893(2). However, on December 12, 2025, the Department terminated Remedy Operation Status for the Site. Future Status Reports that describe ongoing remedial actions at the Site shall be submitted as Phase V Status Reports, and where required, Remedial Monitoring Reports as pursuant to 310 CMR 40.0892.

As discussed above, in order for UniFirst to conduct the response actions required in the NOAF/NON, UniFirst shall first submit a Tier Classification Extension. MassDEP seeks to continue working cooperatively with UniFirst. The Department hereby extends the deadline established in the NOAF/NON for the submittal of the Tier Classification Extension to May 1, 2025.

Sincerely,

Andrew Friedmann

For- Eric S. Worrall
Regional Director
Northeast Region

E-copy

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October 31, 2025

Eric Worrall
Regional Director
Bureau of Waste Site Cleanup
MassDEP, Northeast Regional Office
Eric.Worrall@mass.gov

Re: Notice of Audit Findings and Notice of Noncompliance
50 Tufts Street Disposal Site; RTN 3-0023246; NON-NE-00019585

Dear Mr. Worrall,

This letter follows the meetings and discussions among the Massachusetts Department of Environmental Protection ("MassDEP"), GEI, Inc. ("GEI"), UniFirst Corporation ("UniFirst") and their counsel related to the ongoing work at the 50 Tufts Street site in Somerville, Release Tracking Number 3-23246 (the "Site"), including UniFirst's response to MassDEP's December 2024 Notice of Audit Findings and Notice of Noncompliance ("NAFNON"). The parties last met on April 25, 2025, through Microsoft Teams.[1]

The April 25, 2025, meeting was helpful in clarifying MassDEP's expectations regarding the form and content of the subsequent submissions called for by the NAFNON. In particular, MassDEP confirmed that after UniFirst collects additional data in support of the subsurface investigation discussed during the meeting, UniFirst should submit addendums to its existing milestone "Phase" reports (*e.g.* the Phase II, III, and IV reports), as opposed to entirely new, comprehensive reports. It was further discussed that any new information collected or obtained regarding plume stability or remedy performance will be included in forthcoming Phase V Status Reports and in the Phase II-IV report supplements, as appropriate. MassDEP clarified during the meeting that though the Site's Remedial

[1] MassDEP extended the first compliance deadline identified in the NAFNON for submission of a new Tier Classification until May 9, 2025. The Tier Classification was submitted by May 9, 2025.

Operation Status ("ROS") had been revoked by the NAFNON, the Site remains in Phase V of the Massachusetts Contingency Plan ("MCP") for reporting purposes.

As a result of these clarifications, UniFirst has begun performing the additional work called for by the NAFNON to further define the vertical nature and horizontal extent of the plume, to better understand the extent of contamination in bedrock, to revisit certain residential properties identified in the NAFNON, and to update the overall conceptual site model. UniFirst looks forward to working cooperatively with MassDEP to resolve the NAFNON.

To that end, the remainder of this letter outlines UniFirst's intended approach for addressing the seven properties identified on pages 8 and 9 of the NAFNON in the section entitled "Actions to be Taken and Deadline for such Actions" under item number "3."[2] The seven properties on this list are properties located within the Site boundaries for which owners historically refused mitigation systems, despite conditions having been present at those properties in or about 2009 that may have qualified as "critical exposure pathways" ("CEPs") during the pendency of the Immediate Response Action ("IRA").

As MassDEP is aware, the IRA for the Site is now closed, following the submission of the IRA Completion Report in 2009 and its amendment in 2011. The MCP makes clear that evaluation of CEPs is a component of an IRA. *See* 310 CMR 40.0411(8). Closure of an IRA includes demonstration that CEPs have been mitigated to the extent feasible, and the regulations allow for the closure of an IRA where it is demonstrated to be infeasible to mitigate a CEP. 310 CMR 40.0414(3) & (4). The 2016 Vapor Intrusion Guidance—published after the completion of the IRA at this Site—further indicates that an owner's refusal of a mitigation measure makes mitigation at that property infeasible.[3] The guidance further provides that properties previously subject to a CEP analysis should be evaluated after IRA closure pursuant to the MCP to confirm conditions of No Significant Risk

[2] The seven properties identified on this list are: 99 Franklin Street, 162-164 Tufts Street, 9 Tufts Street, 11-13 Tufts Street, 17 Tufts Street, 19 Tufts Street, and 25 Tufts Street.

[3] *MassDEP Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure* (October 2016) at § 4.3.3, p. 84 ("At owner-occupied residences with a CEP that does not pose Significant Risk, response actions to eliminate or mitigate CEP conditions are infeasible if the owner-occupant will not agree to address CEP conditions.").

remain.[4] Accordingly, where an IRA Completion Report has been submitted and no open IRA remains, residences will be evaluated according to a long-term No Significant Risk standard, consistent with the MCP.

UniFirst's IRA Completion Report for the Site was submitted in 2009 and amended in 2011, concluding that CEPs had been mitigated to the extent feasible, including in certain cases because property owners within the Site boundaries had refused UniFirst's offers to install mitigation systems.

In the interest of proactive communication with MassDEP, UniFirst's evaluation of the seven properties identified in the NAFNON where owners previously refused mitigation will follow the No Significant Risk standard, because no open IRA exists. MassDEP directs on page 9 of the NAFNON: that "[s]ufficient rounds of indoor air testing must be performed to determine if the CEPs still exist," and further that, "[a]ny and all CEPs must be eliminated or mitigated to the extent feasible." Although a CEP may exist,[5] the requirement to mitigate these CEPs to the extent feasible has already been satisfied and is no longer applicable at the Site because the IRA has been completed.

The CEP standard applies pending completion of the Site Investigation, Risk Characterization, and Feasibility Study. MassDEP's 2016 VI Guidance explains the importance of IRAs to address CEPs being premised upon a lack of data and information early in the investigation phase of a project. The guidance states that the "requirements in the MCP ensure that timely action is taken, where feasible, to protect sensitive human receptors from exposures to site-related compounds in indoor air or drinking water, while a disposal site is being fully assessed…The CEP requirement reflects the benefit of taking prompt response actions…in light of the …limited site information that may be available early in the MCP process."[6]

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[4] 2016 VI Guidance at Figure 4-3, page 83 (directing responsible parties to "[f]ollow MCP to address long-term risk and consider continuing exposure" [following submission of the IRA Completion Report]).

[5] Critical Exposure Pathways mean … vapor emissions of measurable concentrations of oil and/or hazardous materials into the living or working space of a pre-school, daycare, school or occupied residential dwelling (310 CMR 40.0006).

[6] *MassDEP Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure* (October 2016) at § 4.3, p. 80.

Because the Site remains in Phase V, with no active IRA, UniFirst's responsibilities under the MCP are centered around achievement of the No Significant Risk Standard. Consistent with the further explanation offered in the November 21, 2024, letter from Ileen Gladstone, P.E., LSP, and Chris Coner, CHMM, to Andy Friedmann of MassDEP, confirmation sampling at properties previously subject to an IRA will not trigger a new reporting obligation under the Substantial Release Migration ("SRM") or CEP standards, unless the results of the sampling were to reveal an Imminent Hazard or conditions that would *newly* give rise to an IRA. Accordingly, UniFirst's evaluation of the properties for which mitigation was previously refused will follow the No Significant Risk standard and not the initial CEP evaluation process.

Consistent with the MCP and with MassDEP's direction in the NAFNON, UniFirst intends to seek access for further evaluation at the seven properties where owners previously refused mitigation. The scope of the evaluation will be to confirm that conditions of No Significant Risk remain, as no active IRA addressing CEPs exists at the Site under the current regulatory status of the Site. Because the Site is a mature site and remains in Phase V of the MCP process, new release reports will not be made, unless Imminent Hazard conditions are determined to be present. Such a report was recently made on July 29, 2025, for example, when trichloroethylene (TCE) as high as 8.65 ug/m^3 was detected at 11 Morton Street, even though it is likely that the TCE is not associated with the disposal Site.

UniFirst remains committed to addressing any Site-related risks in the surrounding community. Therefore, if the indoor air data collected at one or more of these seven properties is not consistent with the historical data and does not pose a condition of NSR, UniFirst will take actions to further investigate or mitigate the risk, such as installation of a sub-slab depressurization system, with the homeowner's consent.

On the other hand, if the indoor air data is consistent with the historical data and poses a condition of NSR under current conditions, and soil gas data demonstrates a condition of NSR for future conditions, UniFirst expects to begin preparation of a partial Permanent Solution for the property.

UniFirst anticipates that evaluation of the properties discussed in this letter will begin this fall. The purpose of the letter is to proactively communicate UniFirst's intended response to these activities well in advance of the receipt of sampling results and future deliverables. Information regarding these evaluations will be provided to MassDEP pursuant to the deliverables required by the NAFNON and pursuant to UniFirst's ongoing status reporting obligations under Phase V of the MCP.

Please let us know if you have any questions or would like to discuss any of the information in this letter.

Sincerely yours,

Jeffrey D. Talbert
Partner, Arnold & Porter
Jeff.Talbert@arnoldporter.com

cc: Andrew Friedmann, Ph.D., MassDEP
Maureen Vallantini, Esq., MassDEP
Millie Garcia-Serrano, MassDEP
Catherine Malagrida, UniFirst
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February 27, 2026

Eric Worrall
Regional Director
Bureau of Waste Site Cleanup
MassDEP, Northeast Regional Office
Eric.Worrall@mass.gov

Re: Notice of Audit Findings and Notice of Noncompliance
50 Tufts Street Disposal Site; RTN 3-0023246; NON-NE-00019585

Dear Mr. Worrall,

In follow-up to the prior meetings, discussions, and letters (including my October 31, 2025 letter) related to the ongoing work at the 50 Tufts Street site in Somerville, Release Tracking Number 3-23246 (the "Site") and UniFirst's response to MassDEP's December 2024 Notice of Audit Findings and Notice of Noncompliance ("NAFNON"), UniFirst writes to request a 60-day extension of the April 14, 2026 deadline to submit the Phase II Addendum as well as all subsequent deadlines.

This short extension is necessary due to the time required to obtain access to Site properties and complete data collection and analysis of the results, including the winter season. This request for a relatively short extension is consistent with UniFirst's prior notice to the MassDEP that additional time may be needed to complete the NAFNON submissions. With this extension we plan to submit the outstanding reports by the following deadlines:

- Phase II Addendum – due June 13, 2026.
- Phase III Addendum – due August 11, 2026
- Phase IV Addendum – due October 12, 2026.

- Permanent Solution Submission – due February 12

Please let us know if you have any questions or would like to discuss any of the information in this letter.

Sincerely yours,

Jeffrey D. Talbert
Partner, Arnold & Porter
Jeff.Talbert@arnoldporter.com

cc: Andrew Friedmann, Ph.D., MassDEP
Maureen Vallantini, Esq., MassDEP
Millie Garcia-Serrano, MassDEP
Catherine Malagrida, UniFirst
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Department of Environmental Protection

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Maura T. Healey	**Kim Driscoll**	**Rebecca Tepper**	**Bonnie Heiple**
Governor	Lieutenant Governor	Secretary	Commissioner

Sent via email

March 4, 2026

UniFirst Corporation
68 Jonspin Road
Wilmington, MA 01887

RE: Somerville
50 Tufts Street
RTN 3-23246
NON-NE-00019585

Attention: Catherine Malagrida, Manager, Environmental Compliance

Approval of Extension of Deadlines established in Notice of Audit Findings/Notice of Noncompliance

Dear Catherine Malagrida,

The Massachusetts Department of Environmental Protection (MassDEP) has received a written request dated February 27, 2026 (Letter) to extend deadlines established in a Notice of Audit Findings/Notice of Noncompliance (NOAF/NON) issued on December 12, 2024 and referenced above. The letter, from Jeffrey D. Talbert, Esq., written on behalf of UniFirst Corporation (UniFirst), requests a sixty (60) day extension for submittals and associated deadlines described in the NOAF/NON beginning with the revised Phase II Comprehensive Site Assessment and subsequent submittals. By this letter, MassDEP approves the requested extensions and establishes the following Interim Deadlines, which appear below and in the February 27, 2026 Letter submitted on behalf of Unifirst:

1. By June 13, 2026, submit a revised Phase II Comprehensive Site Assessment;
2. By August 11, 2026 submit a revised Phase III Remedial Action Plan;
3. By October 12, 2026 submit a revised Phase IV Remedy Implementation Plan;
4. By February 12, 2026 submit a Permanent or Temporary Solution Statement.

The above submittals must comport with all applicable provisions and requirements set forth in the Massachusetts Contingency Plan (310 CMR 40.000 et seq.) and the requirements described in the December 12, 2024 NOAF/NON.

If you have any questions relative to this correspondence, please contact Tiffany Duhl at tiffany.duhl@mass.gov or 857-310-1290. All future communications regarding this release should reference the Release Tracking Number **RTN 3-0023246**.

Sincerely,

Eric S. Worrall

Eric S. Worrall
Regional Director, Bureau of Waste Site Cleanup
MassDEP Northeast Regional Office

eCC:
Tiffany Duhl, Ph.D., MassDEP
Leticia Ruiz-Boyle, MassDEP
Jeffrey D. Talbert, Esq., Arnold & Porter
Ileen Gladstone, GEI
Board of Health, City of Somerville

Coner, Chris

From: Duhl, Tiffany (DEP) <Tiffany.Duhl@mass.gov>
Sent: Friday, February 13, 2026 10:38 AM
To: Coner, Chris
Cc: Gladstone, Ileen
Subject: [EXT] RE: Indoor Air Sampling Status Update RTN 3-23246

EXTERNAL EMAIL

Hi Chris (and Ilene),

Thanks very much for the update, which I find encouraging. I don't think there is a need to discuss further at this time, but please do let us know if/when you want to make a formal access assistance request.

Have a great weekend,
-Tiffany

From: Coner, Chris <CConer@geiconsultants.com>
Sent: Thursday, February 12, 2026 4:25 PM
To: Duhl, Tiffany (DEP) <Tiffany.Duhl@mass.gov>
Cc: Gladstone, Ilene (EXT) <IGladstone@geiconsultants.com>
Subject: Indoor Air Sampling Status Update RTN 3-23246

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hi Tiffany,

I hope you are doing well. I am writing with a status update regarding the progress made toward the indoor air sampling targets in the December 12, 2024, Notice of Audit Findings and Notice of Noncompliance. You may remember that between two lists in that document of properties located inside the Site boundaries, there were a total of 16 properties where we would be seeking access for two rounds of indoor air sampling. We've been successful in obtaining access to 11 of the 16 properties and have collected indoor air samples from these properties, none of which pose concerns. You may have seen the results of some of this sampling work in the latest February 2026 Phase V Status Report submitted for the Site.

The remaining properties where we have not been able to obtain access are the following:

- 4 Morton Street (existing EPMM)
- 99 Franklin Street
- 9 Tufts Street
- 11-13 Tufts Street
- 17 Tufts Street

A summary of our attempts to contact the property owners at these five properties is attached. A correspondence history table was included in the February 2026 Phase V Status Report that includes all of the properties on the two original lists. We have established contact and discussed sampling with the owners of 4 Morton Street and

11-13 Tufts Street, but the property owners have not yet agreed to cooperate with the actual sampling events. We have attempted contact via certified mail and in-person visits to the remaining 3 properties without success. We will continue to make efforts to access these properties for the remainder of the heating season but may need to request assistance from the Department, as the Notice indicates may be possible, if those attempts also fail. Please let me know if you would like to discuss further, or if you require additional information from me at this time.

Thank you,

Chris

We have moved - please note our new address.

GEI

CHRISTOPHER CONER, CHMM
Project Manager
781.721.4135 cell: 978.430.0808
100 Quannapowitt Parkway | Suite 300 | Wakefield, MA 01880

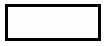

Table C-1. Correspondence Tracking
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Property	Date	Communication
84 Franklin Street	January 27, 2026	Email correspondence with homeowner to schedule additional indoor air sampling.
	February & March, 2026	Follow-up email and phone correspondence with the homeowner to schedule indoor air sampling. Conducted March 17-18, 2026.
	March 17, 2026	Notice of Sampling letter handed to homeowner during indoor air sampling. Owner mentioned their neighbor (86 Franklin Street) asked why we weren't sampling there too. GEI explained 86 Franklin was closed under a Partial Permanent Solution Statement in October 2017, and provided contact information for the neighbor to reach out if desired.
	March 25-30, 2026	Text with homeowner to schedule resample of basement sample due to ambient indoor air canister. Conducted March 31-April 1, 2026.
91-93 Franklin Street	February 2025	Email correspondence to schedule indoor air sampling. Conducted February 17-18, 2025.
	February 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	April 2025	Mailed indoor air sampling results letter to homeowner.
	December 2025	Phone correspondence to schedule EPMM inspection and indoor air sampling. Conducted December 18-19, 2025.
	January 2026	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	January 29, 2026	Mailed indoor air sampling results letter to homeowner.
95 Franklin Street	January 13, 2026	Called owner to schedule annual EPMM inspection. Conducted January 14, 2026.
97 Franklin Street	January 27, 2026	Called owner to schedule indoor air and soil vapor sampling; left voicemail.
	February 5, 2026	Visited property and knocked on door. Met with owner. Scheduled indoor air and soil vapor sampling for February 9-10, 2026.
	February 9, 2026	Notice of Sampling letter handed to owner during sampling.
	March 5, 2026	Mailed indoor air sampling results letter to homeowner.
99 Franklin Street	December 5, 2025	Attempted to mail certified letter to 99 Franklin Street regarding environmental conditions and requesting access to conduct additional indoor air sampling. Letter returned to sender.
	December 18, 2025	Mailed certified letter to homeowner's address regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	January 28, 2026	Visited property to see if we could establish contact with a tenant. No contact.
	January 29, 2026	Mailed another copy of certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February 12, 2026	UniFirst's Attorney provided possible phone numbers from records search. Attempted calling. Calls failed (out of service).
	February 17, 2026	Mailed another copy of certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	March 24, 2026	Visited property again to see if we could establish contact with a tenant. No contact.
162-164 Glen Street	December 5, 2025	Mailed certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	December 17, 2025	Visited property and knocked on door. Met with owner. Scheduling of indoor air sampling is pending owner availability in early 2026.
	January 1, 2026	Email correspondence with homeowner to schedule indoor air sampling. Conducted February 5-6, 2026.
	January 29, 2026	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	March 2, 2026	Email correspondence with homeowner to schedule a second round of indoor air sampling
	March 3, 2026	Called home phone to schedule a second round of indoor air sampling. Conducted March 9-10, 2026.
	March 5, 2026	Emailed February 2026 indoor air sampling results letter to homeowner.
	March 9, 2026	Notice of Sampling letter handed to homeowner during second round of sampling.
	May 6, 2026	Emailed March 2026 indoor air sampling results letter to homeowner.
166-168 Glen Street	February 14, 2025	Email with homeowner to schedule indoor air sampling. Conducted February 20-21, 2025.
	February 19, 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	April 3, 2025	Emailed indoor air sampling results letter to homeowner.
	October - December 2025	Email/phone calls with homeowner regarding potential sewer line replacement.
	December 2025	Called and emailed to schedule EPMM inspection and indoor air sampling. Unable to schedule in 2025.
	January 13, 2026	Text correspondence with homeowner. Scheduled EPMM inspection and indoor air sampling for January 27-28, 2026.
	January 27, 2026	Notice of sampling handed to homeowner during sampling.
	January 29, 2026	Text with homeowner to schedule resample of basement sample due to ambient indoor air canister. Conducted February 5-6, 2026.
	March 5, 2026	Emailed indoor air sampling results letter to homeowner.
17 Knowlton Street	February 20, 2025	Email with homeowner to schedule sampling. Conducted March 5-6, 2025.
	March 4, 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	April 4, 2025	Emailed indoor air sampling results letter to homeowner.
	December 2025	Email with homeowner to schedule EPMM inspection and indoor air sampling. Unable to schedule in 2025.
	January 20, 2026	Visited property to discuss scheduling with homeowner. No contact.
	January 23, 2026	Visited property again to discuss scheduling with homeowner. Scheduled EPMM inspection and indoor air sampling for January 27-28, 2026.
	January 27, 2026	Notice of sampling letter handed to homeowner during sampling.
	March 5, 2026	Mailed indoor air sampling results letter to homeowner.
31-33 Knowlton Street	January 2026	Emailed and texted homeowner to schedule an EPMM inspection. No contact.
	January 15, 2026	Homeowner responded to email. Provided updated phone number for future contact. EPMM inspection conducted January 16, 2026.
32 Knowlton Street	February 21, 2025	Phone call to schedule indoor air sampling. Conducted February 27-28, 2025.
	February 26, 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	April 4, 2025	Mailed indoor air sampling results letter to homeowner.
	December 2025	Called to schedule EPMM inspection and indoor air sampling. Conducted December 18-19, 2025.
	January 2026	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	January 29, 2026	Mailed indoor air sampling results letter to homeowner.

Table C-1. Correspondence Tracking
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Property	Date	Communication
34 Knowlton Street	February 14, 2025	Phone call to schedule indoor air sampling. Conducted February 24-25, 2025.
	February 19, 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	February 26, 2025	Homeowner email response to request for vapor pin installation. Agreed to not install the vapor pin at the homeowner request.
	March 24, 2025	Email to schedule resample of first floor sample due to ambient indoor air canister. Conducted April 8-9, 2025.
	April 15, 2025	Emailed indoor air sampling results letter to homeowner.
	December 2025	Called to schedule EPMM inspection and indoor air/soil vapor (riser pipe) sampling. Conducted December 18-19, 2025.
	January 2026	Notice of Sampling letter mailed to homeowner for indoor air and soil vapor sampling.
	January 30, 2026	Emailed indoor air and soil vapor results letter to owner.
35-37 Knowlton Street	January 2026	Text and phone correspondence with homeowner. No contact.
	February 6, 2026	Visited property. Met with tenant, who called homeowner. Homeowner approved of GEI conducting EPMM inspection during the visit.
4 Morton Street	December 17, 2025	Visited property and met with tenant, who provided updated information for homeowner to attempt to contact.
	December 18, 2025	Mailed certified letter to homeowner requesting access to conduct EPMM inspection and schedule additional indoor air sampling.
	January 13, 2026	Called homeowner's cell phone provided by tenant. No contact. Followed up with an email to homeowner.
	January 14, 2026	Homeowner replied to email and requested a follow-up (in regards to scheduling indoor air sampling) in February because they were out of town.
	February 2026	Sent follow-up emails and texts to the homeowner to schedule indoor air sampling.
	February 19, 2026	Owner followed up via email, requesting that sampling be delayed a few more weeks due to snow and difficulties parking. Replied via email offering the owner parking at 50 Tufts Street, and reiterated the need to sample during the heating season.
	February 20, 2026	Continued email correspondence for scheduling. First round of indoor air sampling scheduled for February 26-27, 2026.
	February 26, 2026	Notice of Sampling letter provided to homeowner during February 2026 sampling.
	February 27, 2026	Continued correspondence with owner and tenants. Scheduled second round of sampling for March 5-6, 2026.
	March 3, 2026	Emailed Notice of Sampling letter for March 2026 sampling to homeowner.
	May 6, 2026	Emailed February and March 2026 indoor air sampling results letter to homeowner.
10 Morton Street	January 20, 2026	Contacted homeowner. Annual EPMM inspection conducted same day.
11 Morton Street	February 2025	Emails with homeowner to schedule sampling.
	April 3, 2025	Email with homeowner to schedule sampling. Conducted April 7-8, 2025.
	April 30, 2025	Email with homeowner to schedule resample of basement sample due to ambient indoor air canister; also sample first floor again for confirmation. Conducted May 6-7, 2025.
	June 25, 2025	Email indoor air results to homeowner and request for phone call.
	July - December 2025	Periodic emails/phone calls with homeowner related to RTN 3-52237, including to schedule indoor air/soil vapor sampling & install APUs.
	September 29, 2025	Email indoor air and soil vapor results (related to RTN 3-52237) and phone call discussion with homeowner.
	December 2, 2025	Provided copy of Notification Retraction Letter for RTN 3-52237 to homeowner via email upon request.
	December 2025	Email/phone calls to schedule additional indoor air and soil vapor sampling (second round for NAFNON). Conducted on December 18-19, 2025.
	January 2026	Notice of Sampling letter mailed for indoor air and soil vapor sampling.
	January 26, 2026	Emailed Results letter for December 2025 indoor air and soil vapor sampling.
19-19A Morton Street	February 19, 2025	Email with homeowner to schedule indoor air sampling and coordination with tenants. Conducted February 24-25, 2025.
	February 26, 2025	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	April 4, 2025	Emailed indoor air sampling results letter to homeowner.
	December 2025	Email with homeowner and coordination with tenants to schedule EPMM inspection and indoor air sampling. Conducted December 18-19, 2025.
	January 2026	Notice of Sampling letter mailed to homeowner for indoor air sampling.
	January 30, 2026	Emailed indoor air sampling results letter to homeowner.
9 Tufts Street	December 5, 2025	Attempted to mail certified letter to 9 Tufts Street regarding environmental conditions and requesting access to conduct additional indoor air sampling. Letter returned to sender.
	December 17, 2025	Visited property. No contact. Could not determine building owner's unit based on mailbox names so did not leave a copy of letter.
	January 29, 2026	Mailed a copy of certified letter to homeowner's address regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February 12, 2026	UniFirst's Attorney provided possible phone numbers from records search. Attempted calling. Spoke to someone who said they will forward the message along.
	February 17, 2026	Mailed another copy of certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February and March 2026	Additional attempts calling phone numbers provided by attorney. No contact. Left voicemails.
	March 24, 2026	Visited 9 Tufts street homeowner's address at 19 Rhode Island Avenue in Somerville and spoke with owner. Discussed sampling at 9 Tufts Street, which he agreed to pending tenant coordination. Handed a copy of access request letter and business card for his records.
	March 25, 2026	Called homeowner and discussed desire to sample the following week. He said he will get back to GEI after talking with the tenants. Sent a follow up email to clarify the sampling procedure and timing.
	March and April 2026	Had not heard back from homeowner after call on March 25th. Followed up with phone calls; no response.
11-13 Tufts Street	December 5, 2025	Mailed certified letters to homeowners of Units 1 to 3 regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	December 17, 2025	Visited property and met with owner of Unit 2. Scheduling of indoor air sampling is pending owner availability in early 2026.
	January 23, 2026	Had not heard back from owner since Holidays when a copy of certified mail was left in the mailbox. Visted property again. No contact.
	January 28, 2026	Visted property again. No contact.
	January 29, 2026	Mailed another copy of certified letter to homeowners regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February 17, 2026	Mailed another copy of certified letter to homeowners regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	March 24, 2026	Visited property again. No contact. Left copy of access request letter with business card in mailbox.

Table C-1. Correspondence Tracking
Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

Property	Date	Communication
17 Tufts Street	December 5, 2025	Mailed certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	December 17, 2025	Visited property. No contact. Left copy of certified letter in mailbox.
	January 23, 2026	Visted property. Contacted tenant and left business card. Tenant stated they would share with the homeowner.
	January 28, 2026	Visted property again. No contact.
	January 29, 2026	Mailed a copy of certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February 12, 2026	UniFirst's Attorney provided possible phone numbers from records search. Attempted calling. No contact. Followed up with a text (voicemail box full).
	February 17, 2026	Mailed another copy of certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	February and March 2026	Additional attempts calling phone numbers provided by attorney. No contact. Followed up with a text (voicemail box full).
	March 24, 2026	Visited property again. No contact. Left copy of access request letter with business card in mailbox.
19 Tufts Street	December 5, 2025	Mailed certified letters to homeowners regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	December 17, 2025	Visited property and met with owner. Scheduling of indoor air sampling is pending owner availability in early 2026.
	January 2026	Email correspondence with homeowner. Indoor air sampling scheduled for January 14-15, 2026.
	January 29, 2026	Notice of sampling mailed to owner for indoor air sampling.
	March 2, 2026	Email correspondence with homeowner for a second round of indoor air sampling. Scheduled for March 9-10, 2026.
	March 5, 2026	Emailed Results letter for January 2026 Indoor Air Sampling.
	March 9, 2026	Notice of sampling provided to owner during sampling.
	May 6, 2026	Emailed March 2026 indoor air sampling results letter to homeowner.
23 Tufts Street	January 13, 2026	Phone calls to schedule EPMM inspection. Conducted January 23, 2026.
25 Tufts Street	December 5, 2025	Mailed certified letter to homeowner regarding environmental conditions and requesting access to conduct additional indoor air sampling.
	December 17, 2025	Visited property. No contact. Left copy of certified letter in mailbox.
	January 14, 2026	Visited property and met with homeowner (owner of 25 and 27 Tufts Street).
	January 15, 2026	Text correspondence with homeowner. Indoor air sampling scheduled for January 19-20, 2026.
	January 19, 2026	Notice of sampling provided to owner during sampling.
	March 2, 2026	Text correspondence with homeowner to schedule a second round of indoor air sampling.
	March 3, 2026	Followed up via text with homeowner. Indoor air sampling scheduled for March 5-6, 2026.
	March 5, 2026	Notice of sampling provided to owner during sampling.
	March 5, 2026	Mailed indoor air Results letter to owner for January 2026 sampling.
	March 6, 2026	The owner inquired about the Results letter from January 2026 sampling. Informed the owner that the letter was out for mailing. The owner provided an email address so the results could be sent electronically as well.
	May 6, 2026	Emailed March 2026 indoor air sampling results letter to homeowner.
27 Tufts Street	January 14, 2026	Visited 25 Tufts Street (same owner as 27 Tufts Street) and met with homeowner. Conducted annual EPMM inspection at 27 Tufts Street same day.
31 Tufts Street	January to February 2026	Email correspondence with property management to schedule annual EPMM inspection and indoor air/soil vapor sampling.
	January 22, 2026	Met with property management to conduct EPMM inspection. After inspection, shut EPMM vent prior to indoor air/soil vapor sampling.
	January 28, 2026	Notice of sampling letter emailed to property management. Indoor air/soil vapor sampling conducted February 5-6, 2026.
	March 5, 2026	Emailed Results letter for February 2026 Indoor Air and Soil Vapor Sampling.
60 Tufts Street	January 2026	Email correspondence with property management to schedule indoor air/soil vapor sampling. Conducted January 7-8, 2026.
	January 20, 2026	Property Manager reached out regarding results of recent indoor air sampling and requested another copy of results from October sampling for a trustee meeting.
	January 26, 2026	Mailed Notice of Sampling letter for February groundwater sampling.
	February 25, 2026	Emailed results letter for January 2026 indoor air and soil vapor sampling to property manager.
	February and March 2026	Email and phone call correspondence with property manager regarding tenant complaints of excessive SSDS blower noise. Visit property with First Electric (maintenance contractor) on March 3, 2026. Blower is operating normally.
	March 6, 2026	Called Property Manager to discuss SSDS and to schedule another round of indoor air/soil vapor sampling. No contact.
	March 25, 2026	Property manager follows up via email requesting update on SSDS for a trustee meeting. Provide update that blower is operating normally.
	May 7, 2026	Mailed results letter for February groundwater sampling
120 Washington Street	January 26, 2026	Mailed Notice of Sampling letter for February groundwater sampling.
	May 7, 2026	Mailed results letter for February groundwater sampling
121 Washington Street	January 29, 2026	Mailed December 2025 soil vapor results letter to property owner.
	February 25, 2026	December 2025 soil vapor results letter was returned to sender by postal service. Emailed results letter to owner instead.
	March 5, 2026	Discussed installation of vent piping shutdown valve with owner (installed on March 6, 2026). Indoor air/soil vapor sampling scheduled for week of 3/16/26.
	March 11, 2026	Notice of sampling letter emailed to owner.
City of Somerville	January 26, 2026	Mailed Notice of Sampling letter for February groundwater sampling.
	March 11, 2026	Mailed Notice of Sampling letter for late February and early March groundwater sampling.
	May 7, 2026	Mailed results letter for February and March groundwater sampling

General Notes:
1. EPMM = Exposure Pathway Mitigation Measure.
2. NAFNON = Notice of Audit Finding, Notice of Noncompliance. Issued by Massachusetts Department of Environmental Protection to UniFirst on December 12, 2024.
3. SSDS = Sub-slab depressurization system.

Appendix E MassDEP Short Form

Resident - Indoor Air: Table RA-1
Exposure Point Concentration (EPC)
Based on Resident Ages 0-30 (Cancer) and 0-7 (Noncancer)

Shortforms Version June 2024

Method 3 Lookup Tables Version v0624

ELCR (all chemicals) = 2.02E-06

HI (all chemicals) = 3.93E-02

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}	Notes
TETRACHLOROETHYLENE	1.6E+00	2.0E-06	3.9E-02	

MassDEP ORS
Contact: Azin Kavian
Azin.Kavian@mass.gov

Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 0-30 Years)

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(0\text{-}30)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Method 3 Lookup Tables Version v0624

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

MassDEP ORS
Contact: Azin Kavian
Azin.Kavian@mass.gov

Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 0-7 Years)

Method 3 Lookup Tables Version v0624

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
$AP = AP_{(noncancer)}$	7	year

MassDEP ORS
Contact: Azin Kavian
Azin.Kavian@mass.gov

Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Tables RA-5 and RA-5c
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Tables RA-2 and RA-2a, RA-2b, and RA-2c
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	mg/m^3	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(0-7)}$ - Exposure Period age group 0-7 (noncancer)	7	years	
$EP_{(0-30)}$ - Exposure Period for age group 0-30 (cancer)	30	years	
$EP_{(0-2)}$ - Exposure Period for age group 0-2 (mutagenic cancer)	2	years	
$EP_{(2-16)}$ - Exposure Period for age group 2-16 (mutagenic cancer)	14	years	
$EP_{(2-30)}$ - Exposure Period for age group 2-30 (mutagenic cancer)	28	years	
$EP_{(16-30)}$ - Exposure Period for age group 16-30 (mutagenic cancer)	14	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{lifetime}$ - Averaging Period for cancer for lifetime	70	years	
$AP_{VC\ (0-2)}$ - Averaging Period AP for cancer for age group 0-2 for vinyl chloride (mutagen)	2	years	
$ADAF_{(0-2)}$ - Age Dependant Adjustment Factor for mutagens, age group 0-2	10	dimensionless	
$ADAF_{(2-16)}$ - Age Dependant Adjustment Factor for mutagens, age group 2-16	3	dimensionless	
$ADAF_{(16-30)}$ - Age Dependant Adjustment Factor for mutagens, age group 16-30	1	dimensionless	

MassDEP ORS
Contact: Azin Kavian
Azin.Kavian@mass.gov

Resident - Indoor Air: Table RA-5
Chemical-Specific Data

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3	Notes
TETRACHLOROETHYLENE	3.00E-06	4.00E-02	

MassDEP ORS
Contact: Azin Kavian
Azin.Kavian@mass.gov

Resident - Indoor Air: Table RA-1

Exposure Point Concentration (EPC) - February 2026
4 Morton Street, Sommerville, Massachusetts
Based on Resident Ages 0-30 (Cancer) and 0-7 (Noncancer)

Shortforms Version June 2024
Method 3 Lookup Tables Version v0624

ELCR (all chemicals) = 7.42E-06
HI (all chemicals) = 1.44E-01

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}	Notes
TETRACHLOROETHYLENE	5.8E+00	7.4E-06	1.4E-01	

MassDEP ORS
Contact: Azin Kavian
Azin.Kavian@mass.gov

Resident - Indoor Air: Table RA-1

Exposure Point Concentration (EPC) - March 2026
4 Morton Street, Sommerville, Massachusetts
Based on Resident Ages 0-30 (Cancer) and 0-7 (Noncancer)

Shortforms Version June 2024
Method 3 Lookup Tables Version v0624

ELCR (all chemicals) = 6.02E-06
HI (all chemicals) = 1.17E-01

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}	Notes
TETRACHLOROETHYLENE	4.7E+00	6.0E-06	1.2E-01	

MassDEP ORS
Contact: Azin Kavian
Azin.Kavian@mass.gov

Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 0-30 Years)

4 Morton Street, Sommerville, Massachusetts

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(0\text{-}30)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

MassDEP ORS
Contact: Azin Kavian
Azin.Kavian@mass.gov

Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 0-7 Years)

4 Morton Street, Sommerville, Massachusetts

Method 3 Lookup Tables Version v0624

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
$AP = AP_{(noncancer)}$	7	year

MassDEP ORS
Contact: Azin Kavian
Azin.Kavian@mass.gov

Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors
4 Morton Street, Sommerville, Massachusetts

Method 3 Lookup Tables Version v0624

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Tables RA-5 and RA-5c
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Tables RA-2 and RA-2a, RA-2b, and RA-2c
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	mg/m^3	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(0-7)}$ - Exposure Period age group 0-7 (noncancer)	7	years	
$EP_{(0-30)}$ - Exposure Period for age group 0-30 (cancer)	30	years	
$EP_{(0-2)}$ - Exposure Period for age group 0-2 (mutagenic cancer)	2	years	
$EP_{(2-16)}$ - Exposure Period for age group 2-16 (mutagenic cancer)	14	years	
$EP_{(2-30)}$ - Exposure Period for age group 2-30 (mutagenic cancer)	28	years	
$EP_{(16-30)}$ - Exposure Period for age group 16-30 (mutagenic cancer)	14	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{lifetime}$ - Averaging Period for cancer for lifetime	70	years	
$AP_{VC\ (0-2)}$ - Averaging Period AP for cancer for age group 0-2 for vinyl chloride (mutagen)	2	years	
$ADAF_{(0-2)}$ - Age Dependant Adjustment Factor for mutagens, age group 0-2	10	dimensionless	
$ADAF_{(2-16)}$ - Age Dependant Adjustment Factor for mutagens, age group 2-16	3	dimensionless	
$ADAF_{(16-30)}$ - Age Dependant Adjustment Factor for mutagens, age group 16-30	1	dimensionless	

MassDEP ORS
Contact: Azin Kavian
Azin.Kavian@mass.gov

Resident - Indoor Air: Table RA-5
Chemical-Specific Data
4 Morton Street, Sommerville, Massachusetts

Method 3 Lookup Tables Version v0624

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3	Notes
TETRACHLOROETHYLENE	3.00E-06	4.00E-02	

MassDEP ORS
Contact: Azin Kavian
Azin.Kavian@mass.gov

Resident - Indoor Air: Table RA-1
Exposure Point Concentration (EPC) - January 2026
19 Tufts Street, Sommerville, Massachusetts
Based on Resident Ages 0-30 (Cancer) and 0-7 (Noncancer)

Shortforms Version June 2024
Method 3 Lookup Tables Version v0624

ELCR (all chemicals) = 4.96E-06
HI (all chemicals) = 9.65E-02

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}	Notes
TETRACHLOROETHYLENE	3.9E+00	5.0E-06	9.7E-02	

MassDEP ORS
Contact: Azin Kavian
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Resident - Indoor Air: Table RA-1
Exposure Point Concentration (EPC) - March 2026
19 Tufts Street, Sommerville, Massachusetts
Based on Resident Ages 0-30 (Cancer) and 0-7 (Noncancer)

Shortforms Version June 2024
Method 3 Lookup Tables Version v0624

ELCR (all chemicals) = 2.39E-06
HI (all chemicals) = 4.65E-02

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}	Notes
TETRACHLOROETHYLENE	1.9E+00	2.4E-06	4.7E-02	

MassDEP ORS
Contact: Azin Kavian
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Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 0-30 Years)

19 Tufts Street, Sommerville, Massachusetts

Method 3 Lookup Tables Version v0624

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(0\text{-}30)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

MassDEP ORS
Contact: Azin Kavian
Azin.Kavian@mass.gov

Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 0-7 Years)

19 Tufts Street, Sommerville, Massachusetts

Method 3 Lookup Tables Version v0624

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
$AP = AP_{(noncancer)}$	7	year

MassDEP ORS
Contact: Azin Kavian
Azin.Kavian@mass.gov

Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors
19 Tufts Street, Sommerville, Massachusetts

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Tables RA-5 and RA-5c
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Tables RA-2 and RA-2a, RA-2b, and RA-2c
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	mg/m^3	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(0-7)}$ - Exposure Period age group 0-7 (noncancer)	7	years	
$EP_{(0-30)}$ - Exposure Period for age group 0-30 (cancer)	30	years	
$EP_{(0-2)}$ - Exposure Period for age group 0-2 (mutagenic cancer)	2	years	
$EP_{(2-16)}$ - Exposure Period for age group 2-16 (mutagenic cancer)	14	years	
$EP_{(2-30)}$ - Exposure Period for age group 2-30 (mutagenic cancer)	28	years	
$EP_{(16-30)}$ - Exposure Period for age group 16-30 (mutagenic cancer)	14	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{lifetime}$ - Averaging Period for cancer for lifetime	70	years	
$AP_{VC\ (0-2)}$ - Averaging Period AP for cancer for age group 0-2 for vinyl chloride (mutagen)	2	years	
$ADAF_{(0-2)}$ - Age Dependant Adjustment Factor for mutagens, age group 0-2	10	dimensionless	
$ADAF_{(2-16)}$ - Age Dependant Adjustment Factor for mutagens, age group 2-16	3	dimensionless	
$ADAF_{(16-30)}$ - Age Dependant Adjustment Factor for mutagens, age group 16-30	1	dimensionless	

MassDEP ORS
Contact: Azin Kavian
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Resident - Indoor Air: Table RA-5
Chemical-Specific Data
19 Tufts Street, Sommerville, Massachusetts

Method 3 Lookup Tables Version v0624

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3	Notes
TETRACHLOROETHYLENE	3.00E-06	4.00E-02	

MassDEP ORS
Contact: Azin Kavian
Azin.Kavian@mass.gov

Resident - Indoor Air: Table RA-1

Exposure Point Concentration (EPC) - May 2024
97 Franklin Street, Sommerville, Massachusetts
Based on Resident Ages 0-30 (Cancer) and 0-7 (Noncancer)

Shortforms Version June 2024
Method 3 Lookup Tables Version v0624

ELCR (all chemicals) = 3.39E-06
HI (all chemicals) = 2.88E-01

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}	Notes
TETRACHLOROETHYLENE	1.7E+00	2.2E-06	4.3E-02	
TRICHLOROETHYLENE	4.9E-01	1.2E-06	2.4E-01	**ELCR calculations are on the "TCE C" tab.**

MassDEP ORS
Contact: Azin Kavian
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Resident - Indoor Air: Table RA-1

Exposure Point Concentration (EPC) - February 2025
97 Franklin Street, Sommerville, Massachusetts
Based on Resident Ages 0-30 (Cancer) and 0-7 (Noncancer)

Shortforms Version June 2024
Method 3 Lookup Tables Version v0624

ELCR (all chemicals) = 2.66E-06
HI (all chemicals) = 5.50E-01

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}	Notes
TRICHLOROETHYLENE	1.1E+00	2.7E-06	5.5E-01	**ELCR calculations are on the "TCE C" tab.**

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Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 0-30 Years)

97 Franklin Street, Sommerville, Massachusetts

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(0\text{-}30)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

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Contact: Azin Kavian
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Resident - Indoor Air: Table RA-2c Trichloroethylene

Equations to Calculate Mutagenic Cancer Risk for Resident (Age 0-30 Years)

97 Franklin Street, Sommerville, Massachusetts

Method 3 Lookup Tables Version v0624

Total Cancer Risk for Mutagenic and Non-Mutagenic Effects

$$ELCR^{total} = ELCR^{mut} + ELCR^{nonmut}$$

TCE has mutagenic effects on kidney and non-mutagenic effects on liver and non-hodgekins lymphoma (NHL).

Cancer Risk from Inhalation

$$ELCR^{mut} = LADE^{mut}_{(0-30)} * URF^{mut}$$

$$LADE^{mut}_{(0-30)} = LADE_{(0-2)} * ADAF_{(0-2)} + LADE_{(2-16)} * ADAF_{(2-16)} + LADE_{(16-30)} * ADAF_{(16-30)}$$

$$ELCR^{nonmut} = LADE^{nonmut}_{(0-30)} * URF^{nonmut}$$

$$LADE^{nonmut}_{(0-30)} = LADE_{(0-30)}$$

$$LADE_x = \frac{[OHM]_{air} * EF * ED * EP_x}{AP_{lifetime}}$$

NOTE: These calculations are based on EPA's default method for accounting for early life exposures to mutagenic compounds.

Parameter	Value	Units
URF	OHM-specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM-specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1	event/day
ED	1	day/event
$EP_{(0-30)}$	30	years
$EP_{(0-2)}$	2	years
$EP_{(2-16)}$	14	years
$EP_{(16-30)}$	14	years
$AP_{lifetime}$	70	years
$ADAF_{(0-2)}$	10	dimensionless
$ADAF_{(2-16)}$	3	dimensionless
$ADAF_{(16-30)}$	1	dimensionless

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Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 0-7 Years)

97 Franklin Street, Sommerville, Massachusetts

Method 3 Lookup Tables Version v0624

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
$AP = AP_{(noncancer)}$	7	year

MassDEP ORS
Contact: Azin Kavian
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Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors
97 Franklin Street, Sommerville, Massachusetts

Method 3 Lookup Tables Version v0624

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Tables RA-5 and RA-5c
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Tables RA-2 and RA-2a, RA-2b, and RA-2c
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	mg/m^3	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(0-7)}$ - Exposure Period age group 0-7 (noncancer)	7	years	
$EP_{(0-30)}$ - Exposure Period for age group 0-30 (cancer)	30	years	
$EP_{(0-2)}$ - Exposure Period for age group 0-2 (mutagenic cancer)	2	years	
$EP_{(2-16)}$ - Exposure Period for age group 2-16 (mutagenic cancer)	14	years	
$EP_{(2-30)}$ - Exposure Period for age group 2-30 (mutagenic cancer)	28	years	
$EP_{(16-30)}$ - Exposure Period for age group 16-30 (mutagenic cancer)	14	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{lifetime}$ - Averaging Period for cancer for lifetime	70	years	
$AP_{VC\ (0-2)}$ - Averaging Period AP for cancer for age group 0-2 for vinyl chloride (mutagen)	2	years	
$ADAF_{(0-2)}$ - Age Dependant Adjustment Factor for mutagens, age group 0-2	10	dimensionless	
$ADAF_{(2-16)}$ - Age Dependant Adjustment Factor for mutagens, age group 2-16	3	dimensionless	
$ADAF_{(16-30)}$ - Age Dependant Adjustment Factor for mutagens, age group 16-30	1	dimensionless	

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Resident - Indoor Air: Table RA-5
Chemical-Specific Data
97 Franklin Street, Sommerville, Massachusetts

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3	Notes
TETRACHLOROETHYLENE	3.00E-06	4.00E-02	
TRICHLOROETHYLENE		2.00E-03	**TCE has two URF values; see TCE C Tab!**

MassDEP ORS
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Trichloroethylene

Method 3 Lookup Tables Version v0624

Oil or Hazardous Material (OHM)	EPC ($\mu g/m^3$)
Trichloroethylene	4.9E-01

Fact Sheet, TCE Toxicity Information: Implications for Chronic and Shorter-Term Exposure, August 15, 2014 (published January 23, 2013, revised 4/18/13 and 3/27/2014).

https://www.mass.gov/doc/tce-toxicity-information-implications-for-chronic-and-shorter-term-exposure-fact-sheet/download

Resident - Indoor Air: Table RA-5c Chemical-Specific Data

Oil or Hazardous Material	Non-Mutagenic (Liver and NHL) URF $(\mu g/m^3)^{-1}$	Mutagenic (Kidney) URF $(\mu g/m^3)^{-1}$	RfC mg/m^3
Trichloroethylene	3.10E-06	1.00E-06	2.00E-03

Excess Lifetime Cancer Risk (ELCR) Calculations - May 2024

		Non-Mutagenic Effect	Mutagenic Effect	
Oil or Hazardous Material	EPC ($\mu g/m^3$)	(Liver and NHL) $ELCR_{air}$	(Kidney) $ELCR_{air}$	Total $ELCR_{air}$
Trichloroethylene	4.9E-01	6.5E-07	5.30914E-07	**1.2E-06**

MassDEP ORS
Contact: Azin Kavian
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Trichloroethylene

Method 3 Lookup Tables Version v0624

Oil or Hazardous Material (OHM)	EPC ($\mu g/m^3$)
Trichloroethylene	1.1E+00

Fact Sheet, TCE Toxicity Information: Implications for Chronic and Shorter-Term Exposure, August 15, 2014 (published January 23, 2013, revised 4/18/13 and 3/27/2014).

https://www.mass.gov/doc/tce-toxicity-information-implications-for-chronic-and-shorter-term-exposure-fact-sheet/download

Resident - Indoor Air: Table RA-5c Chemical-Specific Data

Oil or Hazardous Material	Non-Mutagenic (Liver and NHL) URF $(\mu g/m^3)^{-1}$	Mutagenic (Kidney) URF $(\mu g/m^3)^{-1}$	RfC mg/m^3
Trichloroethylene	3.10E-06	1.00E-06	2.00E-03

Excess Lifetime Cancer Risk (ELCR) Calculations - February 2025

		Non-Mutagenic Effect	Mutagenic Effect	
Oil or Hazardous Material	EPC ($\mu g/m^3$)	(Liver and NHL) $ELCR_{air}$	(Kidney) $ELCR_{air}$	Total $ELCR_{air}$
Trichloroethylene	1.1E+00	1.5E-06	1.19429E-06	**2.7E-06**

MassDEP ORS
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Appendix F Boring and Monitoring Well Installation Logs

GeoInsight INC.

SOIL BORING/ WELL COMPLETION LOG

GEO-1

Sheet: 1 Of: 1

Project: Tufts Street
Location: Somerville, MA

Drilling Co.: EDI/GeoSearch
Foreman: Jeramiah
GeoInsight Eng./Geol: J.M.F.

Boring Location: Front Parking Lot
Ground Surface Elevation: Datum:
Date Started: 8/12/2004 Date Completed 8/12/2004

DRILLING METHOD
Vehicle: Auger
Model:
Method: Auger

SAMPLER
Type: Split Spoon
Hammer(lb): 140

GROUND WATER READINGS

DATE	DEPTH	REFERENCE	STABILIZATION
8/12/2004	~13		

DEPTH (ft)	SAMPLE NO.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"	WELL COMPLETION DETAIL	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0		24/21	0-2	17		0-3" Asphalt		25.3	1,2
				33		3-21" Dry brown fine to medium SAND			
				25		some Gravel, trace gray fine to medium			
				27		Sand			
		24/12	2-4	26		Dry brown fine to medium SAND, trace		8.7	1
				39		Gravel			
				31					
				34					
		24/18	4-6	20		Dry brown and red fine to medium SAND,		14.4	1
				25		some Gravel			
5				26					
				33					
		22/12	6-8	20		Dry brown and red fine to medium SAND,		11.7	1,2
				25		some Gravel			
				75					
				>120					
		0/0	8-10	>175					
10									
15									
16									
17									
18									
19									
20						Boring terminated @ 20'			

GRANULAR SOILS

BLOWS/ft.	DENSITY
0-4	V. LOOSE
4-10	LOOSE
10-30	M. DENSE
30-50	DENSE
>50	V. DENSE

COHESIVE SOILS

BLOWS/ft.	CONSISTENCY
<2	V. SOFT
2-4	SOFT
4-8	M. STIFF
8-15	STIFF
15-30	V. STIFF
>30	HARD

WELL CONSTRUCTION MATERIAL	TYPE	INTERVAL FEET BGS	LEGEND
Concrete		0-.5	
Backfill		.5-1	
Grout			
Bentonite		1-3	
Sandpack		3-20	
Riser		0-5	
Screen		5-20	

NOTES:
1. Field screening conducted with Thermo Environmental Industries OVM with an 11.8 eV lamp.
2. Sample submitted to Spectrum Analytical Inc. at Agwam, MA for analysis by EPA Method 8260B

GEO Insight INC.

SOIL BORING/ WELL COMPLETION LOG

GEO-2

Sheet: 1 Of: 1

Project: Tufts Street
Location: Somerville, MA

Drilling Co.: EDI/GeoSearch
Foreman: Jeramiah
Geoinsight Eng./Geol: J.M.F.

Boring Location: Front Parking Lot
Ground Surface Elevation: Datum:
Date Started: 8/12/2004 Date Completed 8/12/2004

DRILLING METHOD	SAMPLER
Vehicle: Auger	Type: Split Spoon
Model:	Hammer(lb): 140
Method: Auger	

GROUND WATER READINGS

DATE	DEPTH	REFERENCE	STABILIZATION

DEPTH (ft)	SAMPLE NO.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"	WELL COMPLETION DETAIL	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0		24/21	0-2	16		0-1' Dry brown fine to medium SAND			
				21		and gravel			
				22		1-2' Dry brown and red fine to medium		2.6	1
				5		SAND, trace Gravel			
		24/12	2-4	20		Dry brown and red fine to medium		3	1
				18		SAND, trace Gravel			
				22					
				23					
		24/8	4-6	21		0-6" Dry brown fine to medium SAND,		1.9	1
				22		some Gravel			
5				21		6-8" Dry black GRAVEL (asphalt),			
				28		trace Silt.			
		24/18	6-8	45		Dry to moist brown fine to medium SAND,		2.6	1
				32		some black fine to medium Sand, some			
				36		Gravel			
				49					
		5/0	8-10	>125		Moist brown and red fine to medium SAND,		2.3	1
						trace Gravel			
10									
15									
16									
17									
18									
19									
20						Boring terminated @ 20'			

GRANULAR SOILS	
BLOWS/ft.	DENSITY
0-4	V. LOOSE
4-10	LOOSE
10-30	M. DENSE
30-50	DENSE
>50	V. DENSE

COHESIVE SOILS	
BLOWS/ft.	CONSISTENCY
<2	V. SOFT
2-4	SOFT
4-8	M. STIFF
8-15	STIFF
15-30	V. STIFF
>30	HARD

WELL CONSTRUCTION MATERIAL TYPE	INTERVAL FEET BGS	LEGEND
Concrete	0-.5	
Backfill	.5-1	
Grout		
Bentonite	1-3	
Sandpack	3-20	
Riser	0-5	
Screen	5-20	

NOTES:

1. Field screening conducted with Thermo Environmental Industries OVM with an 11.8 eV lamp.

GEO Insight INC.

SOIL BORING/ WELL COMPLETION LOG

GEO-3

Sheet: 1 Of 1

Project: Tufts Street
Location: Somerville, MA

Drilling Co.: EDI/GeoSearch
Foreman: Pat
Geoinsight Eng./Geol: J.M.F.

Boring Location: Legion Lot
Ground Surface Elevation: Datum:
Date Started: 8/13/2004 Date Completed 8/13/2004

DRILLING METHOD	SAMPLER
Vehicle: Auger	Type: Split Spoon
Model:	Hammer(lb): 140
Method: Auger	

GROUND WATER READINGS

DATE	DEPTH	REFERENCE	STABILIZATION

DEPTH (ft)	SAMPLE NO.	PEN/REC (in)	SAMPLE DEPTH (ft)	BLOWS/6"	WELL COMPLETION DETAIL	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0			0-7			Dry brown SAND, several large cobbles 0-7' Cleared by vac truck			
5									
10		24/12	10-12	12 20 20 23		Moist brown and green fine to medium SAND, some Gravel, trace clayley silt		0	1
		7/7	12-14	32 >125		Moist brown and red fine to medium SAND, some Gravel, trace green clayley silt Split spoon refusal @ 14'		0	1
15									
16									
17									
18									
19									
20						Boring terminated @ 20' Well Set @ 20'			

GRANULAR SOILS		COHESIVE SOILS	
BLOWS/ft.	DENSITY	BLOWS/ft.	CONSISTENCY
0-4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

WELL CONSTRUCTION MATERIAL	TYPE	INTERVAL FEET BGS	LEGEND
Concrete		0-.5	
Backfill		.5-1	
Grout			
Bentonite		1-3	
Sandpack		3-20	
Riser		0-5	
Screen		5-20	

NOTES:

1. Field screening conducted with Thermo Environmental Industries OVM with an 11.8 eV lamp.

DRAFT

GeoInsight INC.

SOIL BORING/ WELL COMPLETION LOG

GEO-4

Sheet: 1 Of: 1

Project: Tufts Street
Location: Somerville, MA

Drilling Co.: EDI/GeoSearch
Foreman: Pat
GeoInsight Eng./Geol: J.M.F.

Boring Location:
Ground Surface Elevation: Datum:
Date Started: 8/13/2004 Date Completed 8/13/2004

DRILLING METHOD	SAMPLER
Vehicle: Auger	Type: Split Spoon
Model:	Hammer(lb): 140
Method: Auger	

GROUND WATER READINGS

DATE	DEPTH	REFERENCE	STABILIZATION

DEPTH (ft)	SAMPLE NO.	SAMPLE PEN/REC (in)	SAMPLE DEPTH (ft)	BLOWS/6"	WELL COMPLETION DETAIL	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0						0-7' Cleared by Vac truck			
5		15/12	7-11	20		Damp brown fine to medium SAND, trace fine white sand, trace gravel		0	1
				30					
				>125					
10			11-13	18		Moist brown fine to medium SAND, some green Clayley Silt, trace black gravel		0	1,2
				20					
				25					
				28					
15									
16									
17									
18						Refusal @ 19'			
19						Well Set @ 19'			
20									

GRANULAR SOILS	
BLOWS/ft.	DENSITY
0-4	V. LOOSE
4-10	LOOSE
10-30	M. DENSE
30-50	DENSE
>50	V. DENSE

COHESIVE SOILS	
BLOWS/ft.	CONSISTENCY
<2	V. SOFT
2-4	SOFT
4-8	M. STIFF
8-15	STIFF
15-30	V. STIFF
>30	HARD

WELL CONSTRUCTION MATERIAL	TYPE	INTERVAL FEET BGS
Concrete		0-.5
Backfill		.5-1
Grout		
Bentonite		1-2
Sandpack		2-19
Riser		0-4
Screen		4-19

LEGEND

NOTES:
1. Field screening conducted with Thermo Environmental Industries OVM with an 11.8 eV lamp.
2. Sample submitted to Spectrum Analytical Inc. at Agwam, MA for analysis by EPA Method 8260B

DRAFT

GEO Insight INC.

SOIL BORING/ WELL COMPLETION LOG

GEO-5

Sheet: 1 Of: 1

Project: Tufts Street

Location: Somerville, MA

Drilling Co.: EDI/GeoSearch

Foreman:

GeoInsight Eng./Geol: J.M.F.

Boring Location: 13 Tufts Street

Ground Surface Elevation: Datum:

Date Started: 9/16/2004 Date Completed 9/16/2004

DRILLING METHOD	SAMPLER	GROUND WATER READINGS			
Vehicle: Auger	Type: Split Spoon	DATE	DEPTH	REFERENCE	STABILIZATION
Model:	Hammer(lb): 140				
Method: Auger					

DEPTH (ft)	SAMPLE NO.	SAMPLE PEN/REC (in)	SAMPLE DEPTH (ft)	BLOWS/6"	WELL COMPLETION DETAIL	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0									
5									
10		24/21	10-12	43 25 28 31		Moist fine to medium SAND, brown/green Clayley Silt		0	1
15		24/12	15-17	28 25		Wet brown CLAYLEY SILT, some Gravel		3.6	1
16				22 18					
17									
18									
19									
20						Boring terminated @ 20' Well set @ 20'			

GRANULAR SOILS		COHESIVE SOILS		WELL CONSTRUCTION		INTERVAL	LEGEND
BLOWS/ft.	DENSITY	BLOWS/ft.	CONSISTENCY	MATERIAL	TYPE	FEET BGS	
0-4	V. LOOSE	<2	V. SOFT	Concrete		0-.5	
4-10	LOOSE	2-4	SOFT	Backfill		.5-1	
10-30	M. DENSE	4-8	M. STIFF	Grout			
30-50	DENSE	8-15	STIFF	Bentonite		1-3	
>50	V. DENSE	15-30	V. STIFF	Sandpack		3-20	
		>30	HARD	Riser		0-5	
				Screen		5-20	

NOTES:

1. Field screening conducted with Thermo Environmental Industries OVM with an 11.8 eV lamp.

DRAFT

GeoInsight INC.

SOIL BORING/ WELL COMPLETION LOG

GEO-6

Sheet: 1 Of: 1

Project: Tufts Street

Location: Somerville, MA

Drilling Co.:	EDI/GeoSearch	Boring Location:	9 Tufts Street
Foreman:	Pat	Ground Surface Elevation:	Datum:
Geoinsight Eng./Geol:	J.M.F.	Date Started: 8/13/2004	Date Completed 8/13/2004

DRILLING METHOD	SAMPLER
Vehicle: Auger	Type: Split Spoon
Model:	Hammer(lb): 140
Method: Auger	

GROUND WATER READINGS			
DATE	DEPTH	REFERENCE	STABILIZATION

DEPTH (ft)	SAMPLE NO.	SAMPLE PEN/REC (in)	SAMPLE DEPTH (ft)	BLOWS/6"	WELL COMPLETION DETAIL	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0									
5									
10		24/8	10-12	6		Moist green fine SAND, silt/clay		0	1
				20					
				32					
				30					
		5/0	12-14	>125					
15									
16									
17									
18									
19						Boring terminated @ 20'			
20						Well Set @ 20'			

GRANULAR SOILS		COHESIVE SOILS	
BLOWS/ft.	DENSITY	BLOWS/ft.	CONSISTENCY
0-4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

WELL CONSTRUCTION MATERIAL	TYPE	INTERVAL FEET BGS
Concrete		0-.5
Backfill		.5-1
Grout		
Bentonite		1-3
Sandpack		3-20
Riser		0-5
Screen		5-20

LEGEND

NOTES:

1. Field screening conducted with Thermo Environmental Industries OVM with an 11.8 eV lamp.

DRAFT

GEO Insight INC.

SOIL BORING/ WELL COMPLETION LOG

GEO-7

Sheet: 1 Of: 1

Project: Tufts Street
Location: Somerville, MA

Drilling Co.:	EDI/GeoSearch	Boring Location:	Rear Parking Lot
Foreman:	Donnie	Ground Surface Elevation:	Datum:
Geoinsight Eng./Geol:	J.M.F.	Date Started: 8/16/2004	Date Completed 8/16/2004

DRILLING METHOD	SAMPLER	GROUND WATER READINGS			
Vehicle: Auger	Type: Split Spoon	DATE	DEPTH	REFERENCE	STABILIZATION
Model:	Hammer(lb): 140				
Method: Auger					

DEPTH (ft)	SAMPLE NO.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"	WELL COMPLETION DETAIL	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0			0-2					109.4	1
5		24/18	5-7	32		Dry brown fine to medium SAND, trace gravel		49.1	1
				24					
				19					
				18					
		24/12	9-11	20		Damp brown fine to medium SAND, some Gravel, trace dark brown fine to medium sand		15.5	1
10				22					
				36					
				40					
				>125		Refusal @ 13'			
15						No well set			
16									
17									
18									
19									
20									

GRANULAR SOILS		COHESIVE SOILS		WELL CONSTRUCTION		INTERVAL FEET BGS	LEGEND
BLOWS/ft.	DENSITY	BLOWS/ft.	CONSISTENCY	MATERIAL	TYPE		
0-4	V. LOOSE	<2	V. SOFT	Concrete			
4-10	LOOSE	2-4	SOFT	Backfill			
10-30	M. DENSE	4-8	M. STIFF	Grout			
30-50	DENSE	8-15	STIFF	Bentonite			
>50	V. DENSE	15-30	V. STIFF	Sandpack			
		>30	HARD	Riser			
				Screen			

NOTES:
1. Field screening conducted with Thermo Environmental Industries OVM with an 11.8 eV lamp.

DRAFT

GEO Insight inc.

SOIL BORING/ WELL COMPLETION LOG

Project: Tufts Street
Location: Somerville, MA

SOIL BORING-1

Sheet: 1 Of: 1

Drilling Co.: EDI/GeoSearch
Foreman: Jeramiah
GeoInsight Eng./Geol: J.M.F.

Boring Location:
Ground Surface Elevation: Datum:
Date Started: 8/12/2004 Date Completed 8/12/2004

DRILLING METHOD	SAMPLER	GROUND WATER READINGS			
		DATE	DEPTH	REFERENCE	STABILIZATION
Vehicle: Auger	Type: Split Spoon				
Model:	Hammer(lb): NA				
Method: Auger					

DEPTH (ft)	SAMPLE NO.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"	WELL COMPLETION DETAIL	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0			0-4			Dry dark brown fine to medium SAND and GRAVEL, trace cobble		4.1	1
5		24/9	5-7	12		0-6" Dry dark brown fine to medium SAND, and GRAVEL, trace cobble 6-9" Dry brown fine to medium SAND, trace gravel		1.9	1
				7					
				5					
				5					
		24/12	7-9	23		Dry brown fine to medium SAND, trace gravel, trace brick			
				20					
				24					
				19				1.9	1
		14/12	9-11	7		Dry to moist fine to medium brown SAND, and GRAVEL			
				29					
10				>100					
15									
16									
17									
18									
19									
20									

GRANULAR SOILS		COHESIVE SOILS		WELL CONSTRUCTION		INTERVAL FEET BGS	LEGEND
BLOWS/ft.	DENSITY	BLOWS/ft.	CONSISTENCY	MATERIAL	TYPE		
0-4	V. LOOSE	<2	V. SOFT	Concrete			
4-10	LOOSE	2-4	SOFT	Backfill			
10-30	M. DENSE	4-8	M. STIFF	Grout			
30-50	DENSE	8-15	STIFF	Bentonite			
>50	V. DENSE	15-30	V. STIFF	Sandpack			
		>30	HARD	Riser			
				Screen			

NOTES:
1. Field screening conducted with Thermo Environmental Industries OVM with an 11.8 eV lamp.

DRAFT

GEO Insight inc.

SOIL BORING/ WELL COMPLETION LOG

Project: Tufts Street
Location: Somerville, MA

SOIL BORING-2

Sheet: 1 Of: 1

Drilling Co.:	EDI/GeoSearch	Boring Location:	Rear Parking Lot
Foreman:	Jeramiah	Ground Surface Elevation:	Datum:
GeoInsight Eng./Geol	J.M.F.	Date Started: 8/12/2004	Date Completed 8/12/2004

DRILLING METHOD	SAMPLER	GROUND WATER READINGS			
Venicia: Auger	Type: Split Spoon	DATE	DEPTH	REFERENCE	STABILIZATION
Model:	Hammer(lb): NA				
Method: Auger					

DEPTH (ft)	SAMPLE NO.	SAMPLE PEN/REC (in)	SAMPLE DEPTH (ft)	BLOWS/6"	WELL COMPLETION DETAIL	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0			0-3			Dry black fine to course SAND (collected from auger flights)		1.9	1
						0-3 Obstruction augured through			
			2-4			Dry brown GRAVEL, trace fine to medium brown sand (collected from auger flights)		5.2	1
			4-6	6		Dry light brown fine to medium SAND,		0.3	1
				8		trace black fine to medium sand,			
5				7		trace green silt/clay			
				12					
		24/12	6-8	15		Dry brown fine to medium SAND,		0.6	1
				26		some green Clayley Silt			
				42					
				31					
			8-10	6		Dry to damp green CLAYLEY SILT		0	1
				20					
				29					
				32					
10									
15									
16									
17									
18									
19									
20									

GRANULAR SOILS		COHESIVE SOILS		WELL CONSTRUCTION		INTERVAL	LEGEND
BLOWS/ft.	DENSITY	BLOWS/ft.	CONSISTENCY	MATERIAL	TYPE	FEET BGS	
0-4	V. LOOSE	<2	V. SOFT	Concrete			
4-10	LOOSE	2-4	SOFT	Backfill			
10-30	M. DENSE	4-8	M. STIFF	Grout			
30-50	DENSE	8-15	STIFF	Bentonite			
>50	V. DENSE	15-30	V. STIFF	Sandpack			
		>30	HARD	Riser			
				Screen			

NOTES:
1. Field screening conducted with Thermo Environmental Industries OVM with an 11.8 eV lamp.

Sanborn, Head & Associates, Inc.
CONSULTING ENGINEERS & SCIENTISTS

Log of Monitoring Well SH-1

DRAFT

Project: Tufts Street, Somerville, MA
Location: 50 Tufts Street, Somerville, MA
SHA Project No.: 2170.00
Drilling Method: Geoprobe
Sampling Method: 2" Sleeve
Drilling Company: Environmental Drilling, Inc.
Foreman: J. Chase
Date Started: 6/21/02 Date Finished: 6/21/02
Logged By: M. Regan Checked By: M. Clark

Ground Elevation:
TOC Elevation:
PVC Elevation:
Datum:

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Stab. Time

Depth (ft)	Casing Blows per ft	Sample Information: Sample No.	Depth (ft)	Spoon Blows per 6"	Pen/Rec (in.)	PID Values (ppm)	Stratum: Log	Description	Geologic Description	Well Diagram	Well Description
0								0'			6" Flushmount Curb Box
								CONCRETE	6" of CONCRETE.		Concrete Surface Seal (0 to 1')
		S-1A	0-1		48/38	9.3		—0.5'—	S-1A: Brown, fine to coarse SAND, little Silt, trace Gravel. Moist.		
		S-1B	1-2			452			S-1B: Dark brown, fine to coarse SAND, trace Gravel, trace Silt. Moist.		
2		S-1C	2-3			226			S-1C: Light brown, fine to coarse SAND, little Silt. Moist.		2" Schedule 40 PVC Riser (0 to 9')
		S-1D	3-4			775			S-1D: Dark brown/gray, fine to coarse SAND, little Gravel, trace Silt. Moist.		
4									S-2A: Tan, fine SAND and SILT. Moist.		Formation Material (1 to 5')
		S-2A	4-6		48/98	212					
6									S-2B: Tan, fine to coarse SAND, some Gravel, some Silt. Moist.		Bentonite Seal (5 to 7')
		S-2B	6-8			181		SAND			
8									S-3A: Tan, fine to coarse SAND, some Gravel, some Silt. Moist.		
		S-3A	8-10		48/48	246					
10									S-3B: Tan, SILT & CLAY. Moist.		2" PVC Well Screen (0.01" Slots) (9 to 14')
		S-3B	10-12			399					
12									S-4: Tan, fine to coarse SAND, little Gravel, little Silt, little Clay. Moist.		
		S-4	12-14		24/24	2000					
14								—14'—	Refusal at 14 feet. Geoprobe advancement terminated.		
16									NOTES:		
18									1. Soil samples were screened for volatile organic compounds (VOCs) using a Photovac Model 2020 Photoionization Detector (PID) with a 10.6 eV lamp calibrated to an isobutylene standard. Typical detection limit is 1 ppm. "ND" is not detected.		
20											
22											
24											

Sanborn, Head & Associates, Inc.
CONSULTING ENGINEERS & SCIENTISTS

Log of Monitoring Well SH-2

Sheet: 1 of 1

Project: Tufts Street, Somerville, MA
Location: 50 Tufts Street, Somerville, MA
SHA Project No.: 2170.00
Drilling Method: Geoprobe
Sampling Method: 2" Sleeve
Drilling Company: Environmental Drilling, Inc.
Foreman:
Date Started: 6/21/02 Date Finished: 6/21/02
Logged By: M. Regan Checked By: M. Clark

Ground Elevation:
TOC Elevation:
PVC Elevation:
Datum:

DRAFT

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Stab. Time

Depth (ft)	Casing Blows per ft	Sample Information: Sample No.	Depth (ft)	Spoon Blows per 6"	Pen/ Rec (in.)	PID Values (ppm)	Stratum: Log	Description	Geologic Description	Well Diagram	Well Description
0								0'			6" Flushmount Curb Box
								CONCRETE	6" of CONCRETE.		Concrete Surface Seal (0 to 1')
		S-1A	0-1		98/48	85.3		0.5'	S-1A: Tan, fine to coarse SAND, some Silt. Moist.		
									S-1B: Brown/gray, fine to coarse SAND, some Gravel, some Silt. Moist.		
2		S-1B	1-4			1552					2" Schedule 40 PVC Riser (0 to 9')
4		S-3A	4-5		48/48	3000			S-3A: Gray/black, fine to coarse SAND, little Silt. Moist.		Formation Material (1 to 5')
									S-2B: Tan/gray, fine to coarse SAND, little Gravel, little Silt, little Clay. Moist.		
6		S-2B	5-8			151					Bentonite Seal (5 to 7')
								SAND			
8									S-3: Tan, fine to coarse SAND, little Gravel, little Silt, little Clay. Moist.		
10		S-3	8-12		48/48	234					2" PVC Well Screen (0.01" Slots) (9 to 14')
12									S-4: Tan, fine to coarse SAND, little Gravel, little Silt, little Clay. Moist.		Filter Sand (7 to 14')
		S-4	12-14		24/24	415					
14								14'	Refusal at 14 feet. Geoprobe advancement terminated.		
16									NOTES:		
18									1. Soil samples were screened for volatile organic compounds (VOCs) using a Photovac Model 2020 Photoionization Detector (PID) with a 10.6 eV lamp calibrated to an isobutylene standard. Typical detection limit is 1 ppm. "ND" is not detected.		
20											
22											
24											

Sanborn, Head & Associates, Inc.
CONSULTING ENGINEERS & SCIENTISTS

Log of Monitoring Well SH-3

DRAFT

Project: Tufts Street, Somerville, MA
Location: 50 Tufts Street, Somerville, MA
SHA Project No.: 2170.00
Drilling Method: Geoprobe
Sampling Method: 2" Sleeve
Drilling Company: Environmental Drilling, Inc.
Foreman: J. Chase
Date Started: 6/21/02 Date Finished: 6/21/02
Logged By: M. Regan Checked By: M. Clark

Ground Elevation:
TOC Elevation:
PVC Elevation:
Datum:

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Stab. Time

Depth (ft)	Casing Blows per ft	Sample Information: Sample No.	Depth (ft)	Spoon Blows per 6"	Pen/ Rec (in.)	PID Values (ppm)	Stratum: Log	Description	Geologic Description	Well Diagram	Well Description
0								0'			6" Flushmount Curb Box
		S-1A	0-1		48/40	17.5		CONCRETE 0.5'	6" of CONCRETE		Concrete Surface Seal (0 to 1')
		S-1B	1-2			245			S-1A: Tan, fine to coarse SAND, little Gravel, little Silt. Moist.		
2		S-1C	2-3			265			S-1B: Brown, fine to medium SAND, some Silt, little Gravel. Moist.		2" Schedule 40 PVC Riser (0 to 8')
		S-1D	3-4			956			S-1C: Tan, fine to coarse SAND, some Silt, little Gravel. Moist.		
4									S-1D: Dark brown, fine SAND & SILT. Moist.		Formation Material (1 to 4')
									S-2: Tan, fine to coarse SAND, some Silt, little Gravel, little Clay. Moist.		Bentonite Seal (4 to 6')
6		S-2	4-8		48/48	60.2		SAND			
8									S-3: Tan/gray, fine to coarse SAND, little Gravel, little Silt, little Clay. Moist.		2" PVC Well Screen (0.01" Slots) (8 to 13')
10		S-3	8-12		48/48	394					Filter Sand (6 to 13')
12		S-4	12-13		12/12	256			S-4: Tan/gray, fine to coarse SAND, little Gravel, little Silt, little Clay. Moist.		
								13'			
14									Refusal at 13 feet. Geoprobe advancement terminated.		
16									NOTES:		
18									1. Soil samples were screened for volatile organic compounds (VOCs) using a Photovac Model 2020 Photoionization Detector (PID) with a 10.6 eV lamp calibrated to an isobutylene standard. Typical detection limit is 1 ppm. "ND" is not detected.		
20											
22											
24											

Sanborn, Head & Associates, Inc.
CONSULTING ENGINEERS & SCIENTISTS

Log of Monitoring Well SH-4

DRAFT

Project: Tufts Street, Somerville, MA
Location: 50 Tufts Street, Someville, MA
SHA Project No.: 2170.00
Drilling Method: Geoprobe
Sampling Method: 2" Sleeve
Drilling Company: Environmental Drilling, Inc.
Foreman:
Date Started: 6/21/02 Date Finished: 6/21/02
Logged By: M. Regan Checked By: M. Clark

Ground Elevation:
TOC Elevation:
PVC Elevation:
Datum:

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Stab. Time

Depth (ft)	Casing Blows per ft	Sample Information: Sample No.	Depth (ft)	Spoon Blows per 6"	Pen/ Rec (in.)	PID Values (ppm)	Stratum: Log	Description	Geologic Description	Well Diagram	Well Description
0								6" of CONCRETE	6" of CONCRETE.		6" Flushmount Curb Box
		S-1A	0-1		48/48	27.7		CONCRETE 0.5'	S-1A: Light tan, fine to coarse SAND, trace Silt. Moist.		Concrete Surface Seal (0 to 1')
2									S-1B: Tan/gray, fine to coarse SAND, some Silt, little Gravel. Moist.		2" Schedule 40 PVC Riser (0 to 11')
		S-1B	2-4			366					
4									S-2A: Gray/black, fine to coarse SAND, little Silt. Moist.		Formation Material (1 to 7')
									S-2B: Tan/gray, fine to coarse SAND, little Gravel, little Silt, little Clay. Moist.		
6		S-2	4-8		48/48	49.5					
8								SAND	S-3: Tan, fine to coarse SAND, little Gravel, little Silt, little Clay. Moist.		Bentonite Seal (7 to 9')
10		S-3	8-12		48/48	447					
12									S-4: Tan, fine to coarse SAND, little Gravel, little Silt, little Clay. Moist.		2" PVC Well Screen (0.01" Slots) (11 to 16)
14		S-4	12-15.5		40/2	45.1					Filter Sand (9 to 16')
16								16'	Refusal at 16 feet. Geoprobe advancement terminated.		
18									NOTES		
20									1. Soil samples were screened for volatile organic compounds (VOCs) using a Photovac Model 2020 Photoionization Detector (PID) with a 10.6 eV lamp calibrated to an isobutylene standard. Typical detection limit is 1 ppm. "ND" is not detected.		
22									2. 2-inch sleeve within Geoprobe stuck. Damaged upon removal. Recovery total unknown.		
24											

Sanborn, Head & Associates, Inc.
CONSULTING ENGINEERS & SCIENTISTS

Log of Monitoring Well SH-5

DRAFT

Project: Tufts Street, Somerville, MA
Location: 50 Tufts Street, Someville, MA
SHA Project No.: 2170.00
Drilling Method: Geoprobe
Sampling Method: 2" Sleeve
Drilling Company: Environmental Drilling, Inc.
Foreman:
Date Started: 6/21/02 Date Finished: 6/21/02
Logged By: M. Regan Checked By: M. Clark

Ground Elevation:
TOC Elevation:
PVC Elevation:
Datum:

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Stab. Time

Depth (ft)	Casing Blows per ft	Sample Information: Sample No.	Depth (ft)	Spoon Blows per 6"	Pen/ Rec (in.)	PID Values (ppm)	Stratum: Log	Description	Geologic Description	Well Diagram	Well Description
0								0'			6" Flushmount Curb Box
								CONCRETE 0.5'	6" of CONCRETE.		Concrete Surface Seal (0 to 1')
		S-1A	0-1		48/40	2.1			S-1A: Tan, fine to coarse SAND, some Gravel, trace Silt. Moist.		
									S-1B: Brown, fine SAND and SILT, trace Gravel. Moist.		
2		S-1B	1-4			14.4					2" Schedule 40 PVC Riser (0 to 8')
											Formation Material (1 to 4')
4								SAND & SILT	S-2: Dark brown, fine SAND and SILT, trace Gravel. Moist.		Bentonite Seal (4 to 6')
6		S-2	4-8		48/20	305					
8								8'	S-3: Tan/gray, fine to coarse SAND, some Gravel, some Silt, little Clay. Moist.		2" PVC Well Screen (0.01" Slots) (8 to 13')
10		S-3	8-12		48/48	36.7		SAND & GRAVEL			
12		S-4	12-14		24/24	NR			S-4: Tan/gray, fine to coarse SAND, some Gravel, some Silt, little Clay. Moist.		Filter Sand (6 to 13')
								13'	Refusal at 13 feet. Geoprobe advancement terminated.		
14											
16									NOTES:		
18									1. Soil samples were screened for volatile organic compounds (VOCs) using a Photovac Model 2020 Photoionization Detector (PID) with a 10.6 eV lamp calibrated to an isobutylene standard. Typical detection limit is 1 ppm. "ND" is not detected.		
20									2. NR = Not Recorded		
22											
24											

Sanborn, Head & Associates, Inc.
CONSULTING ENGINEERS & SCIENTISTS

Log of Boring SH-B1

Project: Tufts Street, Somerville, MA
Location: 50 Tufts Street, Somerville, MA
SHA Project No.: 2170.00
Drilling Method: Geoprobe
Sampling Method: 2" Sleeve
Drilling Company: Environmental Drilling, Inc.
Foreman: J. Chase
Date Started: 6/21/02 Date Finished: 6/21/02
Logged By: Checked By:

Ground Elevation:
Datum:
Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Stab. Time

DRAFT

Depth (ft)	Sample Information: Sample No.	Depth (ft)	Spoon Blows per 6"	Pen/ Rec (in.)	PID Values (ppm)	Stratum: Log	Description	Geologic Description	Remarks
0							—0'—		NOTES:
								6" of CONCRETE.	
	S-1A	0-1			59.1			S-1A: Light tan, fine to coarse SAND, little Gravel, trace Silt. Moist.	1. Soil samples were screened for volatile organic compounds (VOCs) using a Photovac Model 2020 Photoionization Detector (PID) with a 10.6 eV lamp calibrated to an isobutylene standard. Typical detection limit is 1 ppm. "ND" is not detected.
2								S-1B: Tan, fine to coarse SAND, some Silt, some Clay, little Gravel. Moist.	
	S-1B	1-4			51.3				
4								S-2: Tan/gray, fine to coarse SAND, some Silt, some Clay, trace Gravel. Moist.	2. NR = Not Recorded
6	S-2	4-8			211				
8							SAND & SILT	S-3: Tan/gray, fine to coarse SAND, some Silt, some Clay, trace Gravel. Moist.	
10	S-3	8-12			709				
12								S-4: Tan, fine to medium SAND, some Silt, little Clay. Moist.	
	S-4	12-15			NR				
14									
							—15'—	Refusal at 15 feet. Geoprobe advancement terminated.	
16									
18									
20									
22									
24									

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CONSULTING ENGINEERS & SCIENTISTS

Log of Boring SH-B2

Sheet: 1 of 1

Project: Tufts Street, Somerville, MA
Location: 50 Tufts Street, Somerville, MA
SHA Project No.: 2170.00
Drilling Method: Geoprobe
Sampling Method: 2" Sleeve
Drilling Company: Environmental Drilling, Inc.
Foreman: J. Chase
Date Started: 6/21/02 Date Finished: 6/21/02
Logged By: Checked By:

Ground Elevation:
Datum:
Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Stab. Time

DRAFT

Depth (ft)	Sample Information: Sample No.	Depth (ft)	Spoon Blows per 6"	Pen/ Rec (in.)	PID Values (ppm)	Stratum: Log	Description	Geologic Description	Remarks
0							0		NOTES:
							CONCRETE	6" of CONCRETE.	
							0.5'		
	S-1A	0-3		48/40	436			S-1A: Gray/black, fine to coarse SAND, some Gravel, some Silt. Moist.	1. Soil samples were screened for volatile organic compounds (VOCs) using a Photovac Model 2020 Photoionization Detector (PID) with a 10.6 eV lamp calibrated to an isobutylene standard. Typical detection limit is 1 ppm. "ND" is not detected.
2									
							SAND		
	S-1B	3-4			76.4			S-1B: Tan, fine to medium SAND, trace Silt. Moist.	
4									
								S-2A: Tan/gray, fine to coarse SAND, some Silt, some Clay, trace Gravel. Moist.	
	S-2A	4-6		48/24	549				
6							6'		
								S-2B: Tan/gray, fine to coarse SAND, some Gravel, some Silt, little Clay. Moist.	
	S-2B	6-8			19.7		SAND & GRAVEL		
8							8'		
								S-3: Tan/gray, fine to coarse SAND, some Silt, little Gravel, little Clay.	
10	S-3	8-12		48/24	127		SAND & SILT		
12							12'		
								Refusal at 12 feet. Geoprobe advancement terminated.	
14									
16									
18									
20									
22									
24									

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CONSULTING ENGINEERS & SCIENTISTS

Log of Monitoring Well SH-MW1

DRAFT

Project: Tufts Street, Somerville, MA
Location: 50 Tufts Street, Somerville, MA
SHA Project No.: 2170.00
Drilling Method: 6" ID HSA to 13'; 3.5" ID Rock Core Bit
Sampling Method: 2" Split Spoon
Drilling Company: Environmental Drilling, Inc.
Foreman: S. LaMarsh
Date Started: 7/3/02 Date Finished: 7/3/02
Logged By: M. Regan Checked By: M. Clark

Ground Elevation:
TOC Elevation:
PVC Elevation:
Datum:

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Stab. Time
7/8/02	0900	12.86'	PVC		5 Days

Depth (ft)	Casing Blows per ft	Sample Information: Sample No.	Depth (ft)	Spoon Blows per 6"	Pen/ Rec (in.)	PID Values (ppm)	Stratum: Log	Description	Geologic Description	Well Diagram	Well Description
0								ASPHALT 0.2	2" of ASPHALT.		6" Flushmount Curb Box
		S-1	0-2'			8.1			S-1: Tan/brown, fine to medium SAND, trace Silt. Moist.		Concrete Surface Seal (0 to 1')
2								SAND			
4											2" Schedule 40 PVC Riser (0 to 10')
								---5'---			Formation Material (1 to 6')
6		S-2	5-7	11 34 28 28	24/14	ND			S-2: Hard, tan/olive, SILT & CLAY, some coarse to fine Sand, trace Gravel. Moist.		
											Bentonite Seal (6 to 8')
8								SILT & CLAY			
10									S-3: Hard, tan/olive, SILT & CLAY, some fine to coarse Sand, trace Gravel. Moist.		
		S-3	10-12	12 50 49 45	24/12	2.1					
12								---13'---	Auger refusal at 13 feet.		
14											
16											
18									NOTES:		2" PVC Well Screen (0.01" Slots) (10 to 30')
20									1. Soil samples were screened for volatile organic compounds (VOCs) using a Photovac Model 2020 Photoionization Detector (PID) with a 10.6 eV lamp calibrated to an isobutylene standard. Typical detection limit is 1 ppm. "ND" is not detected.		
22									2. 3.5" diameter rock-core bit utilized for boring advancement for 13' to 30' below ground suface.		Filter Sand (8 to 30')
24											
26											
28											
30											

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CONSULTING ENGINEERS & SCIENTISTS

Log of Monitoring Well SH-MW2

Project: Tufts Street, Somerville, MA
Location: 50 Tufts Street, Somerville, MA
SHA Project No.: 2170.00
Drilling Method: 6" ID Hollow Stem Auger
Sampling Method: 2" Split Spoon
Drilling Company: Environmental Drilling, Inc.
Foreman: S. LaMarsh
Date Started: 7/3/02 Date Finished: 7/3/02
Logged By: M. Regan Checked By: M. Clark

Ground Elevation:
TOC Elevation:
PVC Elevation:
Datum:

DRAFT

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Stab. Time
7/8/02	0905	13.20'	PVC		5 Days

Depth (ft)	Casing Blows per ft	Sample Information: Sample No.	Depth (ft)	Spoon Blows per 6"	Pen/ Rec (in.)	PID Values (ppm)	Stratum: Log	Description	Geologic Description	Well Diagram	Well Description
0								ASPHALT 0.2'	3" of ASPHALT.		6" Flushmount Curb Box
		S-1	0-2'			25.1			S-1: Dark brown, fine to medium SAND & SILT. Moist.		Concrete Surface Seal (0 to 1')
2								SAND			2" Schedule 40 PVC Riser (0 to 10')
4											
								---5'---			Formation Material (1 to 6')
6		S-2	5-7	7 7 9 10	24/12	ND			S-2: Very stiff, tan/olive, SILT & CLAY, some fine to coarse SAND, little Gravel. Moist.		Bentonite Seal (6 to 8')
8											
10		S-3	10-10.5	100/6"	6/4	19.0			S-3: Hard, dark brown, SILT & CLAY, little fine to coarse Sand, trace Gravel.		
12											
14								SILT & CLAY			
16		S-4	15-17	38 40 17 20	24/12				S-4: Hard, tan/brown, SILT & CLAY, some fine to coarse Sand, some Gravel. Wet.		2" PVC Well Screen (0.01" Slots) (10 to 25')
18											
20											Filter Sand (8 to 25')
22											
24								---25'---			
									Boring terminated at 25 feet. No refusal encountered.		
26									NOTES:		
28									1. Soil samples were screened for volatile organic compounds (VOCs) using a Photovac Model 2020 Photoionization Detector (PID) with a 10.6 eV lamp calibrated to an isobutylene standard. Typical detection limit is 1 ppm. "ND" is not detected.		
30											

Sanborn, Head & Associates, Inc.
CONSULTING ENGINEERS & SCIENTISTS

Log of Monitoring Well SH-MW3

Project: Tufts Street, Somerville, MA
Location: 50 Tufts Street, Somerville, MA
SHA Project No.: 2170.00
Drilling Method: 6" ID Hollow Stem Auger
Sampling Method: 2" Split Spoon
Drilling Company: Environmental Drilling, Inc.
Foreman: S. LaMarsh
Date Started: 7/3/02 Date Finished: 7/3/02
Logged By: M. Regan Checked By: M. Clark

Ground Elevation:
TOC Elevation:
PVC Elevation:
Datum:

DRAFT

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Stab. Time
7/8/02	0910	11.60'	PVC		5 Days

Depth (ft)	Casing Blows per ft	Sample Information: Sample No.	Depth (ft)	Spoon Blows per 6"	Pen/Rec (in.)	PID Values (ppm)	Stratum: Log	Description	Geologic Description	Well Diagram	Well Description
0								0' ASPHALT 0.2'	2" of ASPHALT.		6" Flushmount Curb Box
		S-1	0-2'			3.7			S-1: Tan/brown, SILT & CLAY. Moist.		Concrete Surface Seal (0 to 1')
2											2" Schedule 40 PVC Riser (0 to 10')
4											
		S-2	5-7	9 11 15 20	24/18	ND			S-2: Very stiff, tan/olive, CLAY & SILT. Moist.		Formation Material (1 to 6')
6											Bentonite Seal (6 to 8')
8											
10									S-3: Hard, tan/olive, CLAY & SILT. Moist.		
		S-3	10-10.5	17 52 75/4"	16/16	ND					
12								SILT & CLAY			
14											
									S-4: Hard, tan/olive, CLAY & SILT.		2" PVC Well Screen (0.01" Slots) (10 to 24')
16		S-4	15-17	100/6"	6/6	6.7					
18											
20											Filter Sand (8 to 24')
22											
24								--24'--	Boring terminated at 24 feet. No refusal encountered.		
26									NOTES: 1. Soil samples were screened for volatile organic compounds (VOCs) using a Photovac Model 2020 Photoionization Detector (PID) with a 10.6 eV lamp calibrated to an isobutylene standard. Typical detection limit is 1 ppm. "ND" is not detected.		
28											
30											

GEI Consultants, Inc.
1021 Main Street
Winchester, MA 01890

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045160

BORING LOG
PAGE 1 of 1
MW101

DRILLING METHOD: Vac Ex./HSA
GROUND SURFACE ELEVATION (FT): 27.0
NORTHING: 2964738.24 **EASTING:** 767195.02
DRILLED BY: Geosearch W. Harding, J. Mason
LOGGED BY: K. Champagne

LOCATION: Tufts Street
TOTAL DEPTH (FT): 19
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83)
DATE START / END: 4/28/2006 - 5/1/2006

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0	S1	NM	NM	NM	3.4	FILL	S1: (0-2") ASPHALT S1: (2-4") WIDELY GRADED SAND AND GRAVEL (SW); ~80% fine to coarse sand, ~20% fine to coarse subangular gravel up to 1.5", dry, tan, FILL. S1: (4-9") COBBLESTONES S1: (9-12") Similar to S1 (2-4"). S1: (12-15") CONCRETE S1: (15-17") Similar to S1 (2-4"). S1: (17-19") CONCRETE S1: (19-84") SILTY SAND WITH GRAVEL (SM); ~65% fine to coarse sand, ~20% fines, ~15% fine to coarse subangular gravel up to 1", dry, brown, FILL. S1: (84-108") NARROWLY GRADED SAND (SP); Medium sand, dry, tan, FILL.
2							
4							
6							
8							
10	S2	24	20	6 15 16 20	1.3		S2: (0-20") Similar to S1 (19-84").
12	S3	24	19	23 20 16 16	1.3		S3: (0-13") NARROWLY GRADED SAND (SP); Fine sand, moist, tan, FILL. S3: (13-19") Similar to S3 (0-13") but wet.
14	S4	24	21	7 14 16 19	3.4		S4: (0-6") Similar to S3 (0-13") but wet. S4: (6-12") NARROWLY GRADED SAND WITH GRAVEL (SP); ~85% medium sand, ~15% fine to coarse subangular gravel up to 1/4", wet, tan, FILL. S4: (12-21") Similar to S3 (0-13") but wet.
16	S5	24	17	6 13 16 25	5.5		S5: (0-7") NARROWLY GRADED SAND (SP); Medium sand, wet, tan, FILL. S5: (7-17") Similar to S3 (0-13") but wet.
18	S6	24	24	20 30 30 40	4.1		S6: (0-7") Similar to S3 (0-13") but wet. S6: (7-10") Similar to S5 (0-7"). S6: (10-19") Similar to S3 (0-13"), but wet. S6: (19-24") SILTY SAND WITH GRAVEL (SM); ~65% fine sand, ~15% fines, ~20% coarse subangular gravel up to 1",moist, very dense, tan, TILL. Bottom of Borehole, 19.0 ft, no refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
HSA = HOLLOW STEM AUGER
VAC EX. = VACUUM EXCAVATION

NOTES:

Vacuum Excavated to 9.5 ft and then backfilled with cuttings on April 28, 2006. Completed boring with Hollow Stem Auger on May 1, 2006.
Monitoring Well Installed.

LITHOLOGY:

FILL

TILL

GROUNDWATER OBSERVATION WELL REPORT

MW101

Project 50 Tufts Street
Location Somerville, MA
Client UniFirst Corporation
Contractor Geosearch
Driller William Harding and John Rodgers
Inspected by Kelly Champagne
Date Started 5/1/06
Checked by Leslie Lombardo
Date Completed 5/1/06

PG. 1 OF 1
Boring No. MW101
Location Tufts Street
Project No. 045160

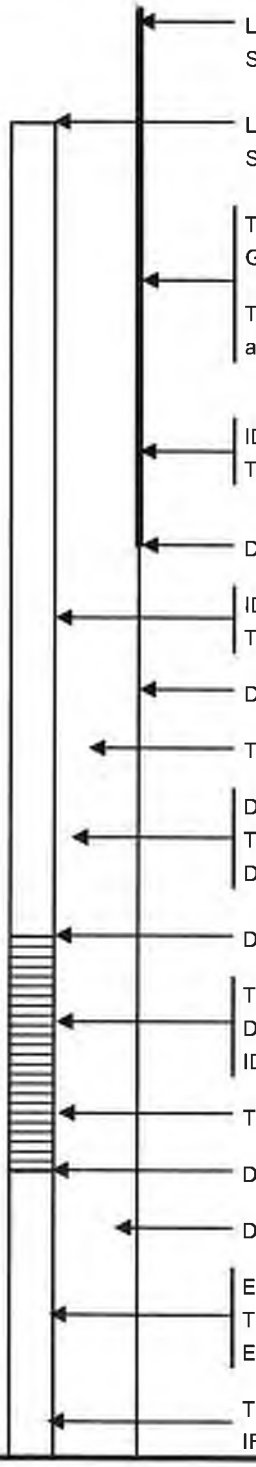
SURVEY DATUM NAVD 1988

GROUND ELEVATION 27.0'

GENERAL SOIL CONDITIONS (Not to Scale)

Asphalt, sand and gravel, cobblestones, concrete

Sand, sand with gravel



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (FT)	~4"
TYPE OF SURFACE SEAL (indicate any additional seals)	Cement
ID OF SURFACE CASING (IN)	8"
TYPE OF SURFACE CASING	Roadbox
DEPTH BOTTOM OF CASING (FT)	8"
ID and OD OF RISER PIPE (IN)	2"ID/2.25"OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	4.25"
TYPE OF BACKFILL AROUND RISER PIPE	No. 2 Sand
DEPTH TOP OF SEAL, IF ANY (FT)	5'
TYPE OF SEAL	Bentonite
DEPTH BOTTOM OF SEAL (FT)	7'
DEPTH TOP OF PERVIOUS SECTION	9'
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010" Slots
ID and OD OF PERVIOUS SECTION (IN)	2"ID/2.25"OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	19'
DEPTH BOTTOM OF SAND COLUMN (FT)	19'
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	NA
TYPE OF SEAL	NA
ELEV./DEPTH BOTTOM OF SEAL (FT)	NA
TYPE OF BACKFILL BELOW PERVIOUS SECTION, IF ANY	NA

NOTES:

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GEI Consultants, Inc.
1021 Main Street
Winchester, MA 01890

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045160

BORING LOG
PAGE 1 of 1
MW102

DRILLING METHOD: Vac Ex./HSA
GROUND SURFACE ELEVATION (FT): 19.2
NORTHING: 2964636.48 **EASTING:** 767510.38
DRILLED BY: Geosearch W. Harding, J. Mason
LOGGED BY: K. Champagne

LOCATION: Tufts Street
TOTAL DEPTH (FT): 16
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83)
DATE START / END: 4/27/2006 - 5/1/2006

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0	S1	NM	NM	NM	0.0	FILL	S1: (0-6") ASPHALT S1: (6-9") WIDELY GRADED SAND WITH GRAVEL (SW); ~85% fine to coarse sand, ~15% fine to coarse subangular gravel up to 1.5", dry, tan, FILL.
2							S1: (9-24") SANDY LEAN CLAY WITH GRAVEL (CL); ~65% lean clay, ~20% fine sand, ~15% coarse subangular gravel up to 3/4", moist, dense, olive, TILL.
4							S1: (24-72") SANDY LEAN CLAY WITH GRAVEL (CL); ~50% lean clay, ~35% fine sand, ~15% coarse subangular gravel up to 1/2", dry, dense, olive/tan, TILL.
6	S2	24	24	23 26 26 25	4.1		S2: (0-5") SANDY SILT WITH GRAVEL (ML); ~50% non-plastic silt, ~35% fine sand, ~15% fine to coarse subangular gravel up to 1/4",moist, olive/tan, TILL.
8	S3	24	5	22 20 22 25	6.1		S2: (5-10") WIDELY GRADED SAND (SW); Fine to coarse sand, dry, reddish-brown/brown, TILL.
10	S4	24	6	9 13 13 14	0.0		S2: (10-24") Similar to S2 (0-5"), but gravel layer from 12 to 16". S3: (0-2") LEAN CLAY WITH SAND (CL); ~80% clay, ~20% fine sand, dry, olive, TILL.
12	S5	24	24	14 9 14 18	3.4		S3: (2-5") Similar to S2 (0-5"), but with white/gray fine grained rock in tip of shoe. S4: (0-11") SILTY SAND AND GRAVEL (SM);~70% fine sand, ~15% silt, ~15% fine to coarse subangular gravel up to 1", wet, tan, TILL.
14	S6	24	12	20 25 23 20	2.0	TILL	S4: (11-13") NARROWLY GRADED SAND AND GRAVEL (SP); ~85% coarse sand, ~15% subangular gravel up to 1/4", wet, black, TILL. S4: (13-16") WIDELY GRADED SAND WITH GRAVEL (SW); ~65% fine to coarse sand, ~35% coarse subangular gravel up to 1.5",wet, brown, TILL. S5: SILTY SAND WITH GRAVEL (SM); ~60% fine to coarse sand, ~25% fine to coarse subangular gravel up to 1.5", ~15% silt, wet, tan with some reddish-brown sand, TILL. S6: NARROWLY GRADED SAND (SP); Coarse sand, wet, tan, TILL.
16							Bottom of Borehole, 16.0 ft., no refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
HSA = HOLLOW STEM AUGER
VAC EX. = VACUUM EXCAVATION

NOTES:

Boring vacuum excavated to 6.5 ft and then backfilled with cuttings on April 27, 2006. Boring completed with Hollow Stem Auger on May 1, 2006.
Monitoring Well installed.

LITHOLOGY:

FILL TILL

GROUNDWATER OBSERVATION WELL REPORT

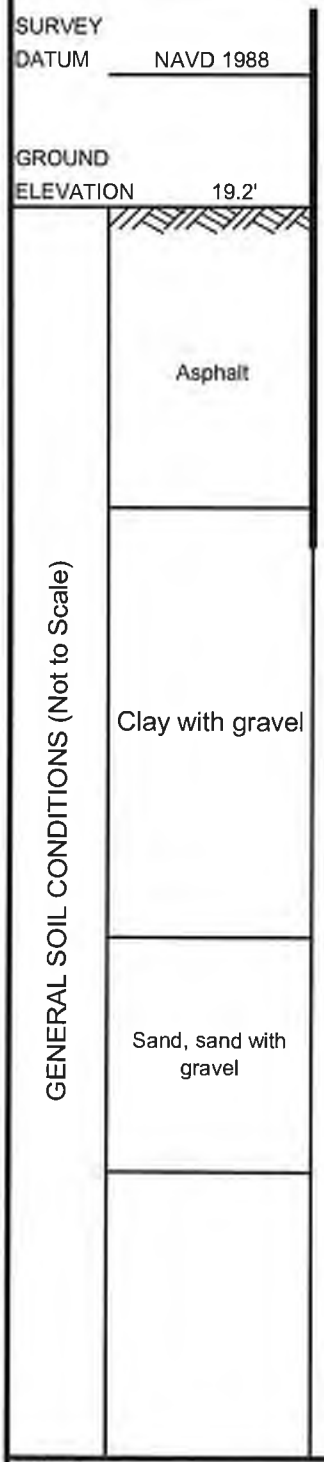
MW102

Project: 50 Tufts Street
Location: Somerville, MA
Client: UniFirst Corporation
Contractor: Geosearch
Driller: William Harding and John Rodgers
Inspected by: Kelly Champagne
Date Started: 5/1/06
Checked by: Leslie Lombardo
Date Completed: 5/1/06

PG. 1 OF 1
Boring No. MW102
Location: Morton Street
Project No. 045160

SURVEY DATUM: NAVD 1988

GROUND ELEVATION: 19.2'



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (FT)	~4"
TYPE OF SURFACE SEAL (indicate any additional seals)	Cement
ID OF SURFACE CASING (IN)	8"
TYPE OF SURFACE CASING	Roadbox
DEPTH BOTTOM OF CASING (FT)	8"
ID and OD OF RISER PIPE (IN)	2"ID/2.25"OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	4.25"
TYPE OF BACKFILL AROUND RISER PIPE	No. 2 Sand
DEPTH TOP OF SEAL, IF ANY (FT)	2'
TYPE OF SEAL	Bentonite
DEPTH BOTTOM OF SEAL (FT)	4'
DEPTH TOP OF PERVIOUS SECTION	6'
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010" Slots
ID and OD OF PERVIOUS SECTION (IN)	2"ID/2.25"OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	16'
DEPTH BOTTOM OF SAND COLUMN (FT)	16'
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	NA
TYPE OF SEAL	NA
ELEV./DEPTH BOTTOM OF SEAL (FT)	NA
TYPE OF BACKFILL BELOW PERVIOUS SECTION, IF ANY	NA

NOTES:

GEI Consultants

GEI Consultants, Inc.
1021 Main Street
Winchester, MA 01890

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045160

BORING LOG
PAGE 1 of 1
MW103

DRILLING METHOD: Vac Ex./HSA
GROUND SURFACE ELEVATION (FT): 19.8
NORTHING: 2964454.99 **EASTING:** 767648.42
DRILLED BY: Geosearch W. Harding, J. Mason
LOGGED BY: K. Champagne

LOCATION: Tufts Street
TOTAL DEPTH (FT): 16
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83)
DATE START / END: 4/27/2006 - 5/1/2006

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY
0	S1	NM	NM	NM	0.0	FILL
6	S2	24	16	4 8 13 20	22.0	FILL / TILL
8	S3	24	20	10 20 19 21	5.5	TILL
10	S4	24	15	7 18 20 20	1.3	TILL
12	S5	24	13	20 32 27 24	8.9	TILL
14	S6	15	13	13 20 50/3"	11.6	TILL
16						

SOIL / BEDROCK DESCRIPTION

S1: (0-5") ASPHALT

S1: (5-36") SANDY SILT WITH GRAVEL (ML); ~50% non-plastic silt, ~35% fine to coarse sand, ~15% fine to coarse subangular gravel up to 1/2", moist, brown, FILL.

S1: (36-48") WIDELY GRADED SAND WITH GRAVEL (SW); ~85% fine to coarse sand, ~15% fine to coarse subanular gravel up to 1", brown, pieces of asphalt-like material, FILL.

S1: (48-60") SILTY SAND WITH GRAVEL (SW-SM); ~45% fine to coarse sand, ~25% non-plastic silt, ~20% fine to coarse subangular gravel up to 1/2", dry, dense, brown, TILL .

S1: (60-72") SILTY GRAVEL WITH SAND (GM); Fine to coarse subangular gravel with silt and widely graded sand, TILL.

S2: (0-3") SANDY SILT WITH GRAVEL (ML); ~60% silt, ~20% fine sand, ~20% fine to coarse subangular gravel up to 3/4", moist, olive/brown, pieces of tar-like material, TILL.

S2: (3-16") NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~70% fine sand, ~20% fine to coarse subangular gravel up to 1.5", ~10% silt, dry, tan, TILL.

S3: (0-12") Similar to S2 (3-16").

S3: (12-20") NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% medium sand, ~20% fine to coarse subangular gravel up to 1", dry, tan, TILL.

S4: Similar to S3 (12-20"), but wet.

S5: (0-11") Similar to S3 (12-20"), but with ~40% fine to coarse gravel up to 1.75", wet.

S5: (11-13") WIDELY GRADED SAND (SW); Fine to coarse sand, wet, black/white, TILL.

S6: NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP); ~55% fine sand, ~35% fine to coarse subangular gravel up to 1.5", ~10% silt, wet, tan, TILL.

Bottom of Borehole, 16.0 ft., no refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
HSA = HOLLOW STEM AUGER
VAC EX. = VACUUM EXCAVATION

NOTES:

Boring vacuum excavated to 6.0 ft. and then backfilled with cuttings on April 27, 2006.
Boring completed with Hollow Stem Auger on May 1, 2006.
Monitoring Well installed.

LITHOLOGY:

FILL TILL

GROUNDWATER OBSERVATION WELL REPORT

MW103

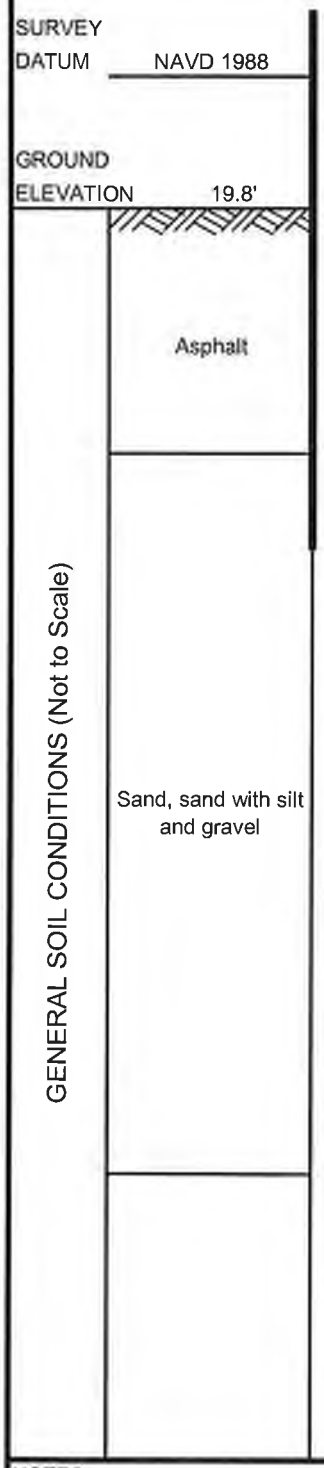
PG. 1 OF 1

Project	50 Tufts Street		
Location	Somerville, MA		
Client	UniFirst Corporation		
Contractor	Geosearch	Driller	William Harding and John Rodgers
Inspected by	Kelly Champagne	Date Started	5/1/06
Checked by	Leslie Lombardo	Date Completed	5/1/06

Boring No. MW103
Location Morton Street
Project No. 045160

SURVEY DATUM NAVD 1988

GROUND ELEVATION 19.8'



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (FT)	~4"
TYPE OF SURFACE SEAL (indicate any additional seals)	Cement
ID OF SURFACE CASING (IN)	8"
TYPE OF SURFACE CASING	Roadbox
DEPTH BOTTOM OF CASING (FT)	8"
ID and OD OF RISER PIPE (IN)	2"ID/2.25"OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	4.25"
TYPE OF BACKFILL AROUND RISER PIPE	No. 2 Sand
DEPTH TOP OF SEAL, IF ANY (FT)	2'
TYPE OF SEAL	Bentonite
DEPTH BOTTOM OF SEAL (FT)	4'
DEPTH TOP OF PERVIOUS SECTION	6'
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010" Slots
ID and OD OF PERVIOUS SECTION (IN)	2"ID/2.25"OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	16'
DEPTH BOTTOM OF SAND COLUMN (FT)	16'
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	NA
TYPE OF SEAL	NA
ELEV./DEPTH BOTTOM OF SEAL (FT)	NA
TYPE OF BACKFILL BELOW PERVIOUS SECTION, IF ANY	NA

NOTES:

GEI Consultants

GEI Consultants

GEI Consultants, Inc.
1021 Main Street
Winchester, MA 01890

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045160

BORING LOG
PAGE 1 of 1
MW104

DRILLING METHOD: Geoprobe
GROUND SURFACE ELEVATION (FT): 17.9
NORTHING: 2964181.07 **EASTING:** 767524.96
DRILLED BY: Geosearch B. Law
LOGGED BY: K. Champagne

LOCATION: Tufts Street
TOTAL DEPTH (FT): 15
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83)
DATE START / END: 5/17/2006 - 5/17/2006

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0	GP1	60	33	PUSH	0.0		GP1: (0-17") SILTY SAND WITH GRAVEL (SM); ~50% fine to medium sand, ~25% silt, ~25% fine to coarse subangular gravel up to 1.5", moist, brown, FILL.
2					0.4		GP1: (17-20") WIDELY GRADED GRAVEL (GW); ~85% fine to coarse subangular gravel, ~15% fine to coarse sand, dry, orange/tan, FILL.
4							GP1: (20-27") WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% fine to coarse sand, ~20% fine to coarse subangular gravel, ~15% silt, clay lense from 22 to 33", dry, brown, TILL.
6	GP2	60	19	PUSH	0.8		GP1: (27-33") SANDY SILT WITH GRAVEL (ML); ~65% silt, ~20% fine sand, ~15% subangular gravel up to 1", moist, olive, TILL.
8							GP2: Similar to S1 (27-33").
10	GP3	60	29	PUSH	1.5		GP3: (0-12") Similar to S1 (27-33"), but wet.
12							GP3: (12-16") WIDELY GRADED SAND WITH SILT (SW-SM); ~65% coarse sand, ~20% fine to medium sand, ~15% silt, wet, brown, TILL.
14							GP3: (16-19") SILTY SAND (SM); ~80% fine sand, ~20% fines, wet, dark brown, TILL.
							S3: (19-29") SILTY SAND (SM); ~70% fine sand, ~30% nonplastic fines, wet, olive, TILL.
							Bottom of Borehole, 15.0 ft., no refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
HSA = HOLLOW STEM AUGER
VAC EX. = VACUUM EXCAVATION

NOTES:

LITHOLOGY:

FILL TILL

GROUNDWATER OBSERVATION WELL REPORT

MW104

PG. 1 OF 1

Project	50 Tufts Street		
Location	Somerville, MA	Boring No.	MW104
Client	UniFirst Corporation	Location	Tufts Street
Contractor	Geosearch	Driller	William Harding and John Rodgers
Inspected by	Kelly Champagne	Date Started	5/17/06
Checked by	Leslie Lombardo	Date Completed	5/17/06
		Project No.	045160

SURVEY DATUM: NAVD 1988

GROUND ELEVATION: 17.9'

GENERAL SOIL CONDITIONS (Not to Scale)

Sand with silt and gravel

Silty sand

LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (FT)	~4"
TYPE OF SURFACE SEAL (indicate any additional seals)	Cement
ID OF SURFACE CASING (IN)	3.5"
TYPE OF SURFACE CASING	Roadbox
DEPTH BOTTOM OF CASING (FT)	8"
ID and OD OF RISER PIPE (IN)	1"ID/1.25"OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	2.5"
TYPE OF BACKFILL AROUND RISER PIPE	No. 2 Sand
DEPTH TOP OF SEAL, IF ANY (FT)	2'
TYPE OF SEAL	Bentonite
DEPTH BOTTOM OF SEAL (FT)	3'
DEPTH TOP OF PERVIOUS SECTION	5'
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010" Slots
ID and OD OF PERVIOUS SECTION (IN)	1"ID/1.25"OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	15'
DEPTH BOTTOM OF SAND COLUMN (FT)	15'
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	NA
TYPE OF SEAL	NA
ELEV./DEPTH BOTTOM OF SEAL (FT)	NA
TYPE OF BACKFILL BELOW PERVIOUS SECTION, IF ANY	NA

NOTES:

GEI Consultants

GEI Consultants

GEI Consultants, Inc.
1021 Main Street
Winchester, MA 01890

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045160

BORING LOG
PAGE 1 of 2
MW105

DRILLING METHOD: Vac Exc/HSA
GROUND SURFACE ELEVATION (FT): 39.6
NORTHING: 2964723.47 **EASTING:** 766919.62
DRILLED BY: Geosearch W. Harding, J. Mason
LOGGED BY: K. Champagne

LOCATION: Tufts Street
TOTAL DEPTH (FT): 29
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83)
DATE START / END: 4/28/2006 - 5/2/2006

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0	S1	108	NM	NM	0.0		S1: (0-6") CONCRETE S1: (6-36") WIDELY GRADED SAND WITH GRAVEL (SW); ~80% fine to coarse sand, ~20% fine to coarse subangular gravel up to 0.75", dry, brown, some ash-like material, FILL . S1: (36-108") SILTY SAND WITH GRAVEL (SM); ~65% fine to coarse sand, ~20% fines, ~15% fine to coarse gravel up to 0.5", moist, brown, TILL.
10	S2	24	2	3 4 4 7	0.0		S2: Similar to S1 (36-108").
12	S3	24	24	10 10 25 30	0.0		S3: (0-15") SILT WITH SAND (ML); ~75% silt, ~25% fine sand, moist, tan/olive, TILL. S3: (15-24") NARROWLY GRADED SAND (SP); Medium sand, dry, tan, TILL.
14	S4	24	23	27 25 37 32	2.7 (1.3)		S4: (0-11") Similar to S3 (15-24"). S4: (11-23") SAND WITH SILT AND GRAVEL (SP-SM); ~70% fine sand, ~20% fine to coarse subangular gravel up to 1.5", ~10% silt, dry, dense, tan, TILL.
16	S5	24	19	40 29 39 27	2.0 (1.3)		S5: (0-7") Similar to S4 (11-23"). S5: (7-9") GRAVEL; Gray, fine grained, TILL. S5: (9-13") Similar to S4 (11-23").
18	S6	24	19	25 25 22 29	2.0		S5: (13-16") NARROWLY GRADED SAND (SP); Medium sand, dry, black/brown, TILL . S5: (16-19") Similar to S4 (11-23").
20	S7	24	19	7 20 24 32	0.0		

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
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PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
HSA = HOLLOW STEM AUGER
VAC EX. = VACUUM EXCAVATION

NOTES:

Boring vacuum excavated to 9.0 ft and then backfilled with cuttings on April 28, 2006. Boring completed with Hollow Stem Auger on May 2, 2006. Monitoring Well installed. When OVM readings were measured for S4 and S5, the ambient air reading was 1.3 ppm.

LITHOLOGY:

FILL TILL

GEI Consultants, Inc.
1021 Main Street
Winchester, MA 01890

PROJECT NAME: 50 Tufts Street
CITY/STATE: Sommerville, Massachusetts
GEI PROJECT NUMBER: 045160

BORING LOG
PAGE 2 of 2
MW105

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	RQD (%)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
22	S8	24	19	16 28 24 30		1.3		
24	S9	24	14	19 37 37 47		0.0		
26	S10	24	15	22 22 25 27		0.0		
28	S11	24	18	27 32 50 44		0.0		

S6: (0-14") Similar to S4 (11-23").

S6: (14-19") Similar to S3 (15-24").

S7: Similar to S4 (11-23").

S8: Similar to S4 (11-23"), but wet in bottom 2".

S9: (0-8") Similar to S4 (11-23"), but wet.

S9: (8-14") ROCK FRAGMENTS; Reddish-brown (8-10"), gray (10-14").

S10: NARROWLY GRADED SAND WITH GRAVEL (SP); ~65% fine sand, ~35% fine to coarse subangular gravel up to 1.5", wet, dense, tan sand, gravel is reddish-brown/brown/gray, TILL .

S11: (0-3") WIDELY GRADED SAND (SW); Fine to coarse sand, TILL.

S11: (3-18") Similar to S4 (11-23"), but wet.

Bottom of Borehole, 29 ft, no refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
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PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
HSA = HOLLOW STEM AUGER
VAC EX. = VACUUM EXCAVATION

NOTES:

Boring vacuum excavated to 9.0 ft and then backfilled with cuttings on April 28, 2006. Boring completed with Hollow Stem Auger on May 2, 2006. Monitoring Well installed. When OVM readings were measured for S4 and S5, the ambient air reading was 1.3 ppm.

LITHOLOGY:

FILL

TILL

GROUNDWATER OBSERVATION WELL REPORT

MW105

Project 50 Tufts Street

Location Somerville, MA

Client UniFirst Corporation

Contractor Geosearch

Driller William Harding and John Rodgers

Inspected by Kelly Champagne

Date Started 5/2/06

Checked by Leslie Lombardo

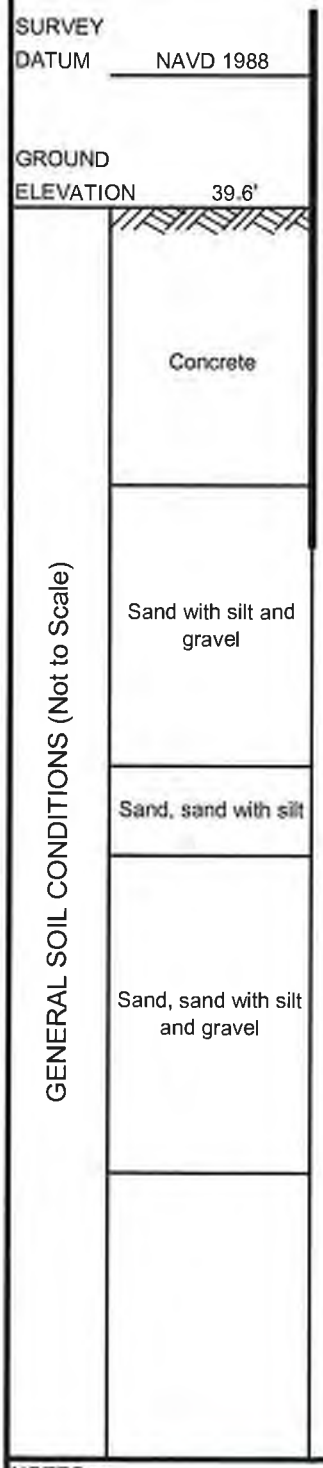
Date Completed 5/2/06

PG. 1 OF 1

Boring No. MW105

Location Cross Street

Project No. 045160


SURVEY DATUM NAVD 1988
GROUND ELEVATION 39.6'
Concrete
Sand with silt and gravel
Sand, sand with silt
Sand, sand with silt and gravel
GENERAL SOIL CONDITIONS (Not to Scale)

LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (FT)	~4"
TYPE OF SURFACE SEAL (indicate any additional seals)	Cement
ID OF SURFACE CASING (IN)	8"
TYPE OF SURFACE CASING	Roadbox
DEPTH BOTTOM OF CASING (FT)	8"
ID and OD OF RISER PIPE (IN)	2"ID/2.25"OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	4.25"
TYPE OF BACKFILL AROUND RISER PIPE	No. 2 Sand
DEPTH TOP OF SEAL, IF ANY (FT)	15'
TYPE OF SEAL	Bentonite
DEPTH BOTTOM OF SEAL (FT)	17'
DEPTH TOP OF PERVIOUS SECTION	19'
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010" Slots
ID and OD OF PERVIOUS SECTION (IN)	2"ID/2.25"OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	29'
DEPTH BOTTOM OF SAND COLUMN (FT)	29'
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	NA
TYPE OF SEAL	NA
ELEV./DEPTH BOTTOM OF SEAL (FT)	NA
TYPE OF BACKFILL BELOW PERVIOUS SECTION, IF ANY	NA

NOTES:

GEI Consultants

GEI Consultants

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW106

DRILLING METHOD: Vac. Ex./Geoprobe
GROUND SURFACE ELEVATION (FT): 26.9
NORTHING: 2964857.6 **EASTING:** 767140.4
DRILLED BY: Geosearch S. Law
LOGGED BY: K. Wolfe

LOCATION: Corner of Dell & Tufts Street (Sidewalk)
TOTAL DEPTH (FT): 21
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 1/3/2007 - 1/5/2007

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0							Vacuum Excavated to 6'. 0-5": Concrete 5-72": WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, ~15% fine gravel, ~10% nonplastic silty fines, 6" lens of white dust/ash at 36", dry, brown, FILL.
2					0.7 (Vac)		
4							
6	S1	60	44	NM	0.4 (S1a)		S1a (0-10"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, ~15% gravel up to 1/2" diameter, ~10% nonplastic silty fines, dry, brown, FILL.
8					0.0 (S1b)		S1b (10-12"): SILTY SAND WITH GRAVEL (SM); ~65% fine to coarse sand, ~20% gravel up to 1/2" diameter, ~15% nonplastic silty fines, trace roots, dry, very dark brown, FILL.
10					0.0 (S1c)		S1c (12-44"): SILT (ML); ~85% low-plastic fines, ~10% fine sand, ~5% gravel up to 1/2" diameter, lens of sand from 29-32", dry, light brown, SILT.
12	S2	60	45	NM	0.0 (S2a)		S2a (0-24"): WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, 20% gravel, dry, light brown, SAND.
14					0.0 (S2b)		S2b (24-45"): NARROWLY GRADED SAND (SP); ~90% fine sand, ~10% nonplastic silty fines, wet, light brown, SAND.
16	S3	60	44	NM	0.0 (S3a)		S3a: Similar to S2b (24-45"), SAND.
18							
20							Bottom of borehole at 21'. No refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Boring vacuum excavated to 6.0 feet, backfilled with cuttings and cold-patched on January 3, 2007. Boring completed with Geoprobe on January 5, 2007. No blow counts are collected during Geoprobe drilling. Monitoring well with soil gas sampling port installed. Environmental samples taken from 2'-4', 12'-14', and 16'-18'.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW106

Project 50 Tufts Street

Location Somerville, MA

Client UniFirst Corporation

Contractor GeoSearch | Driller S. Law and B. Law

Inspected by Krista Wolfe | Date Started 1/5/07

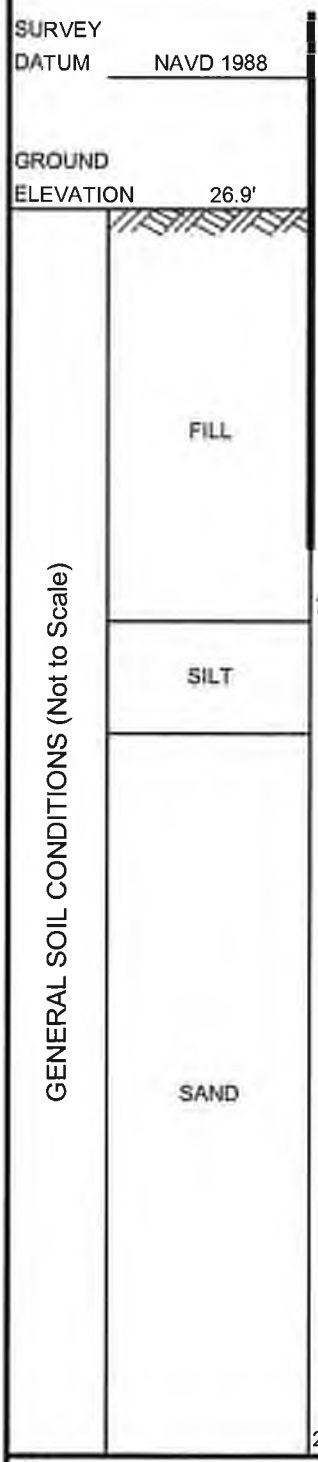
Checked by | Date Completed 1/5/07

PG. 1 OF 1

Boring No. B106

Location Corner of Dell and Tufts St.

Project No. 045162



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (FT)	3.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Grout
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	6 (0-6') / 4.25 (6-19')
TYPE OF BACKFILL AROUND RISER PIPE	No. 2 Sand, Bentonite, Grout
DEPTH TOP OF SEAL, IF ANY (FT)	3.0
TYPE OF SEAL	Granular Bentonite
DEPTH BOTTOM OF SEAL (FT)	7.0
DEPTH TOP OF PERVIOUS SECTION	9.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	19.0
DEPTH BOTTOM OF SAND COLUMN (FT)	19.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	19.0
TYPE OF SEAL	Collapse, Bentonite
ELEV./DEPTH BOTTOM OF SEAL (FT)	21.0
TYPE OF BACKFILL BELOW PERVIOUS SECTION, IF ANY	Collapse, Bentonite

NOTES: Soil vapor sampling port installed.

GEI Consultants

GEI Consultants

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW107

DRILLING METHOD: Vac. Ex./Geoprobe
GROUND SURFACE ELEVATION (FT): 15.1
NORTHING: 2964836.82 **EASTING:** 767354.2
DRILLED BY: Geosearch S. Law
LOGGED BY: K. Wolfe

LOCATION: In Front of 14 Dell Street (Sidewalk)
TOTAL DEPTH (FT): 21
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 1/3/2007 - 1/5/2007

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0							Vacuum Excavated to 6'. 0-5": Concrete 5-60": WIDELY GRADED SAND WITH GRAVEL (SW); ~75% fine to coarse sand, ~20% fine gravel, ~5% nonplastic silty fines, wet at 51", brown, FILL. 60-72": SANDY SILT WITH GRAVEL (ML); ~50% nonplastic silty fines, ~25% fine to coarse sand, ~25% fine gravel, wet, brown, FILL.
2					0.0 (Vac)		
4							
6	S1	60	57	NM	0.0 (S1a)		S1a (0-16"): SANDY SILT (ML); ~60% nonplastic fines, ~40% fine sand, <5% fine gravel, wet, light brown, brick fragments, FILL.
8					0.0 (S1b)		S1b (16-57"): SILT (ML); ~90% nonplastic silty fines, ~10% fine sand, wet, gray, SILT.
10							
12	S2	60	49	NM	0.0 (S2a)		S2a: Similar to S1b (16-57"), SILT.
14							
16	S3	60	48	NM	0.0 (S3a)		S3a (0-36"): Similar to S1b (16-57"), SILT.
18					0.0 (S3b)		S3b (36-48"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% fine to coarse sand, ~25% gravel up to 1/2" diameter, ~10% nonplastic silty fines, wet, gray, SILT.
20							Bottom of borehole at 21'. No refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Boring vacuum excavated to 6.0 feet, backfilled with cuttings and cold-patched on January 3, 2007. Boring completed with Geoprobe on January 5, 2007. No blow counts are collected during Geoprobe drilling. Monitoring well with soil gas sampling port installed. Environmental samples taken from 2'-4', 7'-9', and 20'-21'.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW107

Project: 50 Tufts Street
Location: Somerville, MA
Client: UniFirst Corporation
Contractor: GeoSearch
Driller: S. Law and B. Law
Inspected by: Krista Wolfe
Date Started: 1/5/07
Checked by:
Date Completed: 1/5/07

PG. 1 OF 1
Boring No.: B107
Location: In front of 14 Dell St.
Project No.: 045162

SURVEY DATUM: NAVD 1988

GROUND ELEVATION: 15.1'

GENERAL SOIL CONDITIONS (Not to Scale)

FILL

7'

SILT

21'

LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	8.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Grout (0-8"), Sand (8"-1')
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	6 (0-6') /4.25 (6-21')
TYPE OF BACKFILL AROUND RISER PIPE	No. 2 Sand, Bentonite, Grout
DEPTH TOP OF SEAL, IF ANY (FT)	1.0
TYPE OF SEAL	Granular Bentonite
DEPTH BOTTOM OF SEAL (FT)	1.3
DEPTH TOP OF PERVIOUS SECTION	2.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	12.0
DEPTH BOTTOM OF SAND COLUMN (FT)	12.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	12.0
TYPE OF SEAL	Collapse, Bentonite
ELEV./DEPTH BOTTOM OF SEAL (FT)	21.0
TYPE OF BACKFILL BELOW PERVIOUS SECTION, IF ANY	Collapse, Bentonite

NOTES: Soil vapor sampling port installed.

GEI Consultants

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW108

DRILLING METHOD: Vac. Ex./Geoprobe
GROUND SURFACE ELEVATION (FT): 13.1
NORTHING: 2964765.16 **EASTING:** 767550.1
DRILLED BY: Geosearch S. Law
LOGGED BY: K. Wolfe

LOCATION: Corner of Dell and Glen Street (Sidewalk)
TOTAL DEPTH (FT): 21
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 1/3/2007 - 1/5/2007

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0							Vacuum Excavated to 6'.
2							0-5": Concrete
4					0.0 (Vac)		5-72": WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% fine to coarse sand, ~20% gravel up to 1" diameter, ~10% nonplastic silty fines, wet at 60", light brown, cinders, FILL.
6	S1	60	34	NM	0.0 (S1a)		S1a (0-11"): WIDELY GRADED SAND WITH GRAVEL (SW); ~50% fine to coarse sand, ~45% gravel up to 3/4" diameter, ~5% fines, wet, light brown, FILL.
8					0.0 (S1b)		S1b (11-26"): SILT (ML); ~90% nonplastic silty fines, ~10% fine sand, wet, gray, SILT.
10					0.0 (S1c)		S1c (26-34"): SANDY SILT (ML); ~50% nonplastic silty fines, ~45% fine sand, ~5% fine gravel, wet, gray, SILT.
12							Drilled to 12' to set well, but no samples were collected. Bottom of borehole at 12'. No refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

During the first attempt to vacuum excavate a pipe was encountered at 3 feet. The excavation location was moved approximately 2 feet away. Boring vacuum excavated to 6.0 feet, backfilled with cuttings and cold-patched on January 3, 2007. Boring completed with Geoprobe on January 5, 2007. No blow counts are collected during Geoprobe drilling. Monitoring well with soil gas sampling port installed. Environmental samples taken from 2'-4' and 7'-8'.

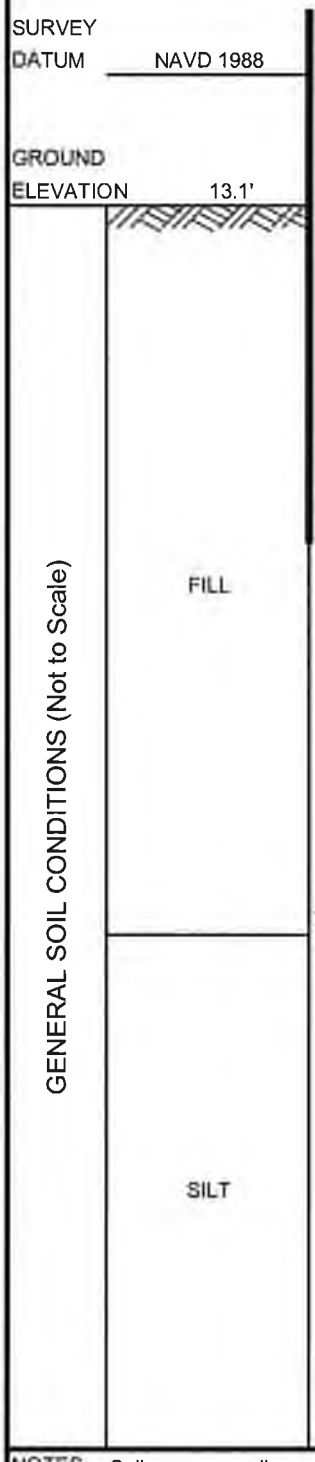
LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW108

Project	50 Tufts Street	PG.	1 OF 1
Location	Somerville, MA	Boring No.	B108
Client	UniFirst Corporation	Location	Corner of Dell and Glen St.
Contractor	GeoSearch	Driller	S. Law and B. Law
Inspected by	Krista Wolfe	Date Started	1/5/07
Checked by		Date Completed	1/5/07
		Project No.	045162



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	8.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Grout (0-8"), Sand (8"-1')
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	6 (0-6') / 4.25 (6-12')
TYPE OF BACKFILL AROUND RISER PIPE	No. 2 Sand, Bentonite, Grout
DEPTH TOP OF SEAL, IF ANY (FT)	1.0
TYPE OF SEAL	Granular Bentonite
DEPTH BOTTOM OF SEAL (FT)	1.5
DEPTH TOP OF PERVIOUS SECTION	2.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	12.0
DEPTH BOTTOM OF SAND COLUMN (FT)	12.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	NA
TYPE OF SEAL	NA
ELEV./DEPTH BOTTOM OF SEAL (FT)	NA
TYPE OF BACKFILL BELOW PERVIOUS SECTION, IF ANY	NA

NOTES: Soil vapor sampling port installed.

GEI Consultants

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

GEI Consultants

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW109

DRILLING METHOD: Vac. Ex./Geoprobe
GROUND SURFACE ELEVATION (FT): 24.7
NORTHING: 2964480.35 **EASTING:** 767379.7
DRILLED BY: Geosearch S. Law
LOGGED BY: K. Wolfe

LOCATION: In Front of 25 Tufts Street (Sidewalk)
TOTAL DEPTH (FT): 15.25
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 1/3/2007 - 1/5/2007

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0							Vacuum Excavated to 6'. 0-5": Concrete 5-72": WIDELY GRADED SAND WITH SILT AND GRAVEL (SW); ~60% fine to coarse sand, ~30% gravel up to 1.5" diameter, ~10% nonplastic silty fines, dry, light brown, FILL.
2					0.0 (Vac)		
4							
6	S1	60	34	NM	0.2 (S1a)		S1a: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% sand, ~15% gravel up to 3/4" diameter, ~10% nonplastic fines, wet, light brown, FILL.
8							
10							
12	S2	51	43	NM	3.2 (S2a)		S2a: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, ~25% gravel, ~10% nonplastic fines, 3" lens of white gravel up to 1" diameter at 22", wet, light brown, FILL.
14							Refusal at 15.25'. Bottom of borehole.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN. OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

Boring vacuum excavated to 6.0 feet, backfilled with cuttings and cold-patched on January 3, 2007. Boring completed with Geoprobe on January 5, 2007. No blow counts are collected during Geoprobe drilling. Monitoring well with soil gas sampling port installed. Environmental samples taken from 2'-4', 7'-9' and 13'-15'.

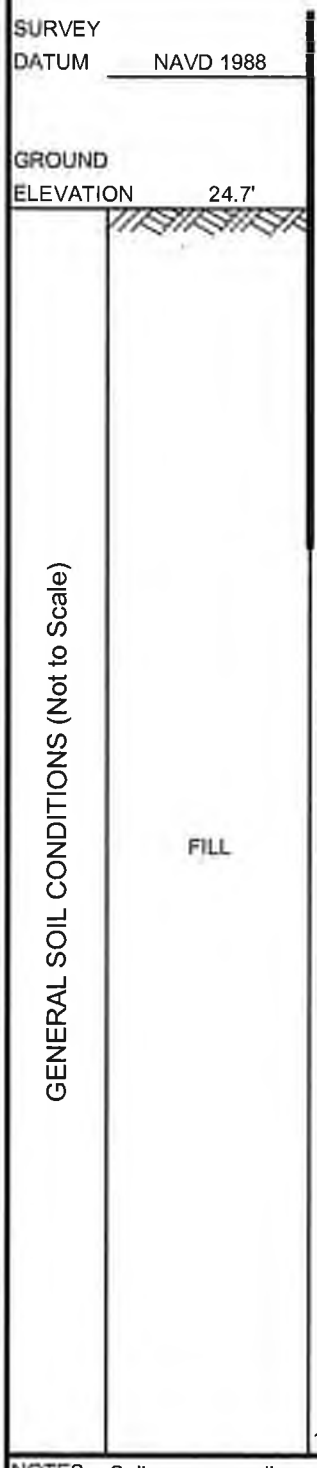
LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW109

Project	50 Tufts Street		
Location	Somerville, MA	PG.	1 OF 1
Client	UniFirst Corporation	Boring No.	B109
Contractor	GeoSearch	Driller	S. Law and B. Law
Location	In front of 25 Tufts St.		
Inspected by	Krista Wolfe	Date Started	1/5/07
Checked by		Date Completed	1/5/07
Project No.	045162		



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	8.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Grout (0-8"), Sand (8"-1.5')
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	6 (0-6') / 4.25 (6-13')
TYPE OF BACKFILL AROUND RISER PIPE	No. 2 Sand
DEPTH TOP OF SEAL, IF ANY (FT)	1.5
TYPE OF SEAL	Granular Bentonite
DEPTH BOTTOM OF SEAL (FT)	2.5
DEPTH TOP OF PERVIOUS SECTION	3.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	13.0
DEPTH BOTTOM OF SAND COLUMN (FT)	13.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	13.0
TYPE OF SEAL	Collapse, Grout
ELEV./DEPTH BOTTOM OF SEAL (FT)	15.25
TYPE OF BACKFILL BELOW PERVIOUS SECTION, IF ANY	Collapse, Grout

NOTES: Soil vapor sampling port installed.

GEI

GEI Consultants

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW110

DRILLING METHOD: Vac. Ex./Geoprobe
GROUND SURFACE ELEVATION (FT): 16
NORTHING: 2964215.31 **EASTING:** 767585.7
DRILLED BY: Geosearch S. Law
LOGGED BY: K. Wolfe

LOCATION: Corner of Knowlton and Tufts Street (Sidewalk)
TOTAL DEPTH (FT): 16
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 1/4/2007 - 1/8/2007

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0					0.0 (Vac)		Vacuum Excavated to 6'. 0-5": Concrete 5-36": WIDELY GRADED SAND WITH GRAVEL (SW); ~70% fine to coarse sand, ~25% gravel up to 1" diameter, ~5% nonplastic silty fines, dry, light brown, FILL. 36-72": SANDY SILT (ML); ~60% nonplastic fines, ~30% fine sand, ~10% fine gravel, wet at 60", light brown, SANDY SILT.
6	S1	60	60	NM	0.0 (S1a)		S1a: SILT (ML), ~90% nonplastic silty fines, ~10% fine sand, wet, gray, SILT.
12	S2	60	42	NM	0.0 (S2a) 0.0 (S2b)		S2a (0-39"): Similar to S1a, SILT. S2b (39-42"): SILT WITH GRAVEL (ML); ~60% nonplastic fines, ~40% gravel up to 1/2" diameter, wet, gray, TILL.
16							Bottom of borehole at 16'. No refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

Boring vacuum excavated to 6.0 feet, backfilled with cuttings and cold-patched on January 4, 2007. Boring completed with Geoprobe on January 8, 2007. No blow counts are collected during Geoprobe drilling. Monitoring well with soil gas sampling port installed. Environmental samples taken from 2'-4', 7'-9' and 13'-14'.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW110

Project 50 Tufts Street

Location Somerville, MA

Client UniFirst Corporation

Contractor GeoSearch | Driller S. Law and B. Law

Inspected by Krista Wolfe | Date Started 1/8/07

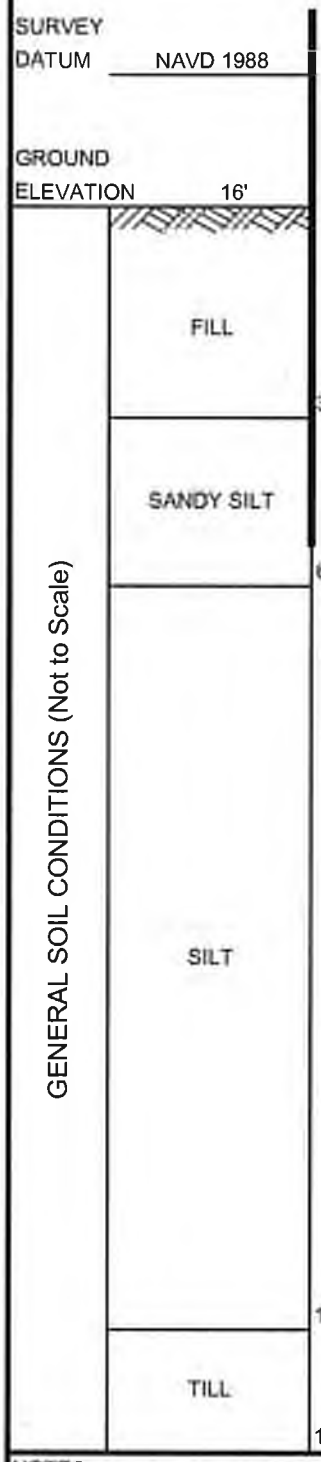
Checked by | Date Completed 1/8/07

PG. 1 OF 1

Boring No. B110

Location Corner of Tufts and Knowlton St.

Project No. 045162



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	--
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	8.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Grout (0-8"), Sand (8"-1.5')
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	6 (0-6') / 4.25 (6-13')
TYPE OF BACKFILL AROUND RISER PIPE	No. 2 Sand
DEPTH TOP OF SEAL, IF ANY (FT)	1.5
TYPE OF SEAL	Granular Bentonite
DEPTH BOTTOM OF SEAL (FT)	2.5
DEPTH TOP OF PERVIOUS SECTION	3.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	13.0
DEPTH BOTTOM OF SAND COLUMN (FT)	13.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	13.0
TYPE OF SEAL	Collapse, Grout
ELEV./DEPTH BOTTOM OF SEAL (FT)	16.0
TYPE OF BACKFILL BELOW PERVIOUS SECTION, IF ANY	Collapse, Grout

NOTES: Soil vapor sampling port installed.

GEI Consultants

GEI Consultants

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW111

DRILLING METHOD: Vac. Ex./Geoprobe
GROUND SURFACE ELEVATION (FT): 19.4
NORTHING: 2964378.68 **EASTING:** 767694.5
DRILLED BY: Geosearch S. Law
LOGGED BY: K. Wolfe

LOCATION: Corner of Morton and Knowlton Street (Sidewalk)
TOTAL DEPTH (FT): 16
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 1/4/2007 - 1/8/2007

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0							Vacuum Excavated to 6'.
2							0-5": Concrete
							5-30": WIDELY GRADED SAND WITH GRAVEL (SW); ~75% fine to coarse sand, ~20% gravel up to 1/2" diameter, ~5% nonplastic silty fines, dry, light brown, FILL.
4					0.0 (Vac)		30-72": SANDY SILT(ML); ~70% nonplastic silty fines, ~25% fine sand, ~5% gravel, dry, light brown, SANDY SILT.
6	S1	60	45	NM	0.0 (S1a)		S1a (0-9"): SILT(ML); ~90% nonplastic silty fines, ~10% fine sand, wet, light brown, SILT.
8					0.0 (S1b)		S1b (9-29"): SILT WITH SAND (ML); ~85% nonplastic silty fines, ~15% fine sand, wet, light brown, SILT.
10					0.0 (S1c)		S1c (29-45"): WIDELY GRADED SAND WITH GRAVEL (SW); ~70% fine to coarse sand, ~25% gravel up to 1" diameter, ~5% nonplastic silty fines, wet, light brown, TILL.
12	S2	60	47	NM	0.0 (S2a)		S2a: Similar to S1c (29-45"), TILL.
14							
16							Bottom of borehole at 16'. No refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Boring vacuum excavated to 6.0 feet, backfilled with cuttings and cold-patched on January 4, 2007. Boring completed with Geoprobe on January 8, 2007. No blow counts are collected during Geoprobe drilling. Monitoring well with soil gas sampling port installed. Environmental samples taken from 2'-4', 7'-9' and 13'-15'.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW111

Project 50 Tufts Street
Location Somerville, MA
Client UniFirst Corporation
Contractor GeoSearch
Driller S. Law and B. Law
Inspected by Krista Wolfe
Date Started 1/8/07
Checked by
Date Completed 1/8/07

PG. 1 OF 1
Boring No. B111
Location Corner of Morton and Knowlton St.
Project No. 045162

SURVEY DATUM NAVD 1988

GROUND ELEVATION 19.4'

GENERAL SOIL CONDITIONS (Not to Scale)

FILL — 2.5'
SANDY SILT — 6'
SILT — 7'
TILL — 8.5'
16'

LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	8.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Grout (0-8"), Sand (8"-1.5')
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	6 (0-6') / 4.25 (6-14')
TYPE OF BACKFILL AROUND RISER PIPE	No. 2 Sand
DEPTH TOP OF SEAL, IF ANY (FT)	1.5
TYPE OF SEAL	Granular Bentonite
DEPTH BOTTOM OF SEAL (FT)	3.0
DEPTH TOP OF PERVIOUS SECTION	4.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	14.0
DEPTH BOTTOM OF SAND COLUMN (FT)	14.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	14.0
TYPE OF SEAL	Collapse, Grout
ELEV./DEPTH BOTTOM OF SEAL (FT)	16.0
TYPE OF BACKFILL BELOW PERVIOUS SECTION, IF ANY	Collapse, Grout

NOTES: Soil vapor sampling port installed.

GEI Consultants

GEI Consultants

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW112

DRILLING METHOD: Vac. Ex./Geoprobe
GROUND SURFACE ELEVATION (FT): 18.6
NORTHING: 2964577.06 **EASTING:** 767769.8
DRILLED BY: Geosearch S. Law
LOGGED BY: K. Wolfe

LOCATION: In Front of 31 and 35 Knowlton Street (Street)
TOTAL DEPTH (FT): 10
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 1/4/2007 - 1/8/2007

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0					0.0 (Vac)		Vacuum Excavated to 6'. 0-7": Asphalt 7-18": WIDELY GRADED SAND WITH GRAVEL (SW); ~75% fine to coarse sand, ~20% gravel up to 3/4" diameter, ~5% nonplastic silty fines, dry, light brown, FILL. 18-72": SILTY SAND (SM); ~60% fine sand, ~40% nonplastic silty fines, dry, light brown, trace brick, cinders, FILL.
6	S1	48	11	NM	0.0 (S1a)		S1a: SILT WITH SAND (ML); ~80% nonplastic silty fines, ~10% fine to coarse sand, ~10% gravel up to 1/2" diameter, wet, light brown, SILT.
10							Refusal at 10'. Bottom of borehole.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN WITH 140 LB. SAFETY HAMMER FALLING 30 IN TO DRIVE A 2 0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

Boring vacuum excavated to 6.0 feet, backfilled with cuttings and cold-patched on January 4, 2007. Boring completed with Geoprobe on January 8, 2007. No blow counts are collected during Geoprobe drilling. Monitoring well with soil gas sampling port installed. Environmental samples taken from 2'-4'and 6'-7'.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW112

Project 50 Tufts Street

Location Somerville, MA

Client UniFirst Corporation

Contractor GeoSearch | Driller S. Law and B. Law

Inspected by Krista Wolfe | Date Started 1/8/07

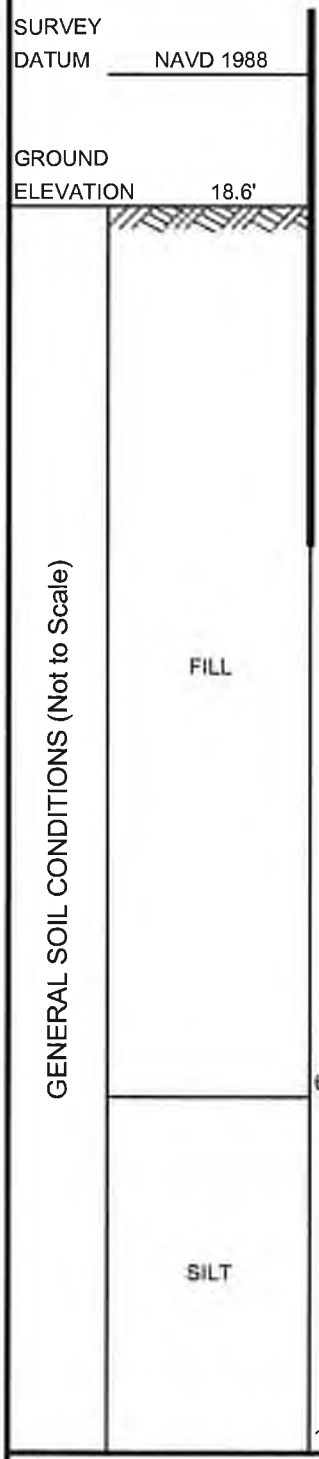
Checked by | Date Completed 1/8/07

PG. 1 OF 1

Boring No. B112

Location In front of 31 and 33 Knowlton St.

Project No. 045162



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	8.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Grout (0-8"), Sand (8"-1.5')
ID OF SURFACE CASING (IN)	6.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	8.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	6 (0-6') / 4.25 (6-10')
TYPE OF BACKFILL AROUND RISER PIPE	No. 2 Sand
DEPTH TOP OF SEAL, IF ANY (FT)	1.5
TYPE OF SEAL	Granular Bentonite
DEPTH BOTTOM OF SEAL (FT)	2.5
DEPTH TOP OF PERVIOUS SECTION	3.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	10.0
DEPTH BOTTOM OF SAND COLUMN (FT)	10.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	NA
TYPE OF SEAL	NA
ELEV./DEPTH BOTTOM OF SEAL (FT)	NA
TYPE OF BACKFILL BELOW PERVIOUS SECTION, IF ANY	NA

NOTES: Soil vapor sampling port installed.

GEI Consultants

GEI Consultants

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW112-A

DRILLING METHOD: Vac. Ex. and HSA
GROUND SURFACE ELEVATION (FT): 18.1
NORTHING: 2964600.66 **EASTING:** 767763.8
DRILLED BY: Geosearch R.Dean
LOGGED BY: H.Ballantyne

LOCATION: Across from 35/37 Knowlton
TOTAL DEPTH (FT): 19
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 3/10/07 - 3/10/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY
0	S1	36	NA	NM	3.8	
2						
	S2	12	NA	NM	0.0	
4	S3	12	NA	NM	1.2	
	S4	24	20	4 7 9 9	0.0	
6						
	S5	11	11	25 88/5"	1.6 0.6	
8						
	S6	24	19	7 17 19 27	0.0	
10						
	S7	24	20	19 17 25 32	0.0	
12						
	S8	24	17	10 22 18 20	1.0	
14						
	S9	24	9	10 12 16 12	0.4	
16						
	S10	24	17	19 25 23 16	2.8	
18						

SOIL / BEDROCK DESCRIPTION

S1 (0-12"): ASPHALT

S1 (12-36"): SANDY SILT (ML); ~65% silt, ~35% fine to medium sand, <5% fine to coarse angular to sub-rounded gravel (up to 2"-diameter), trace brick fragments, dry to moist, moderately dense, dark gray to black, FILL.

S2: Similar to S1 (12-36").

S3: SANDY SILT (ML); ~50% fine to medium sand, ~50% silt, trace fine angular to round gravel (up to 1.5"-diameter), dry, moderately dense, possibly stratified, mottled olive and gray, SILT.

S4: SANDY SILT (ML); ~60% non-plastic silt, ~40% fine sand, dry, moderately dense, possibly stratified, mottled olive and gray, SILT.

S5 (0-7"): Similar to S4.

S5 (7-11"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% fine to coarse sand, ~15% silt, ~10% fine to medium angular to subangular gravel (up to 1"-diameter), dry, loose, olive to brown, TILL.

S6: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~55% fine to coarse sand, ~20% fine to medium angular to sub-rounded gravel (up to 0.75"-diameter), ~15% silt, dry, moderately dense, brown, TILL.

S7: Similar to S6, but wet at 9".

S8: WIDELY GRADED SAND WITH GRAVEL (SW); ~70% fine to coarse sand, ~20% fine to coarse angular to sub-angular gravel (up to 0.25"-diameter), ~10% silt, wet, dense, olive to brown, TILL.

S9: Similar to S8, but 4" gravel lens from 2 to 6".

S10: Similar to S8.

Bottom of Borehole at 19 feet, no refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

The borehole was vacuum excavated to 6 feet prior to drilling. Upon completion, monitoring well with soil gas sampling port was installed in the boring.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

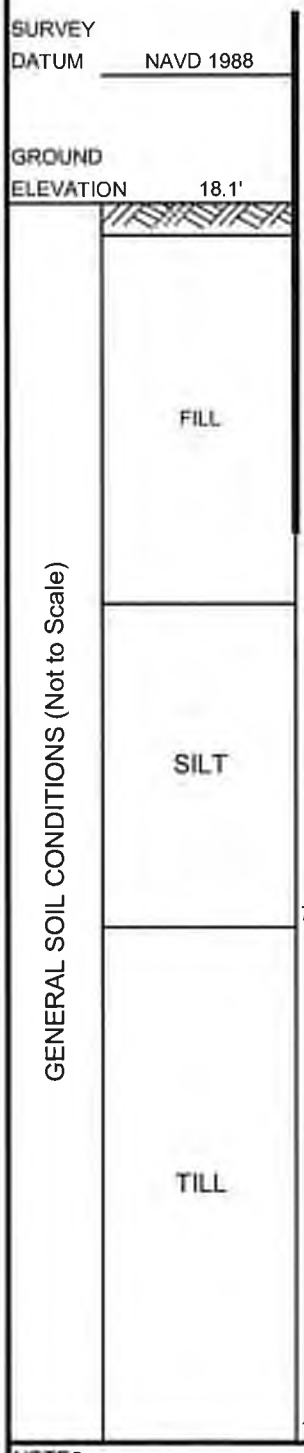
MW112A

Project: 50 Tufts Street
Location: Somerville, MA
Client: UniFirst Corporation
Contractor: GeoSearch
Driller: Rodney Dean
Inspected by: Heather Ballantyne
Date Started: 3/10/07
Checked by:
Date Completed: 3/10/07

PG. 1 OF 1
Boring No.: B112A
Location: across from 35/37 Knowlton Street
Project No.: 045162

SURVEY DATUM: NAVD 1988

GROUND ELEVATION: 18.1'



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	--
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	8.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Cement
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	6 (0-3')/ 4.5 (3-19')
TYPE OF BACKFILL AROUND RISER PIPE	No. 1 Sand/Bentonite Chips
DEPTH TOP OF SEAL, IF ANY (FT)	1.0
TYPE OF SEAL	Bentonite Chips
DEPTH BOTTOM OF SEAL (FT)	3.0
DEPTH TOP OF PERVIOUS SECTION	4.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 1 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	19.0
DEPTH BOTTOM OF SAND COLUMN (FT)	19.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	--
TYPE OF SEAL	--
ELEV./DEPTH BOTTOM OF SEAL (FT)	--
TYPE OF BACKFILL BELOW PERVIOUS SECTION,	none

NOTES: Soil vapor sampling port installed.

GEI Consultants

GEI Consultants

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG

PAGE 1 of 1

MW113

DRILLING METHOD: Vac. Ex./Geoprobe
GROUND SURFACE ELEVATION (FT): 26.6
NORTHING: 2964723.18 **EASTING:** 767311.7
DRILLED BY: Geosearch S. Law
LOGGED BY: K. Wolfe & S. Slater

LOCATION: American Legion Parking Lot
TOTAL DEPTH (FT): 21
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 2/13/07 - 2/15/07

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0							Vacuum Excavated to 6'. 0-5": Concrete 5-72": WIDELY GRADED SAND WITH GRAVEL (SW); ~60% fine to coarse sand, ~40% fine to coarse gravel, brick fragments, light brown, dry, FILL.
2					1.8 (Vac)		
4							
6	S1	60	60	NM	12.6 (S1a)		S1a (0-8"): WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% fine to coarse gravel, ~40% fine to coarse sand, ~10% nonplastic silt, light brown, dry, FILL. S1b (8-60"): SILT (ML); ~95% nonplastic silt, <5% fine sand, 2" lens of fine gravel at 9", light brown, dry, SILT.
8					1.2 (S1b)		
10							
12	S2	60	60	NM	0.7 (S2a)		S2a (0-43"): Similar to S1b (8-60") but no gravel lens, wet at 24", SILT.
14					NM (S2b)		S2b (43-60"): GRAVELLY SILT (ML); ~60% silt, ~35% fine to coarse gravel, <5% fine to coarse sand, light brown, wet, TILL.
16	S3	60	34	NM	0.9 (S3)		S3: WIDELY GRADED SAND (SW); ~90% fine to coarse sand, ~10% fine to coarse gravel, light brown, wet, TILL.
18							
20							Bottom of borehole at 21', no refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Boring vacuum excavated to 6.0 feet, backfilled with cuttings and cold-patched on February 13, 2007. Boring completed with Geoprobe on February 15, 2007. No blow counts are collected during Geoprobe drilling. Monitoring well with soil gas sampling port installed. Environmental samples taken from 2'-4', 11'-13' and 19'-21'.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW113

Project 50 Tufts Street

Location Somerville, MA

Client UniFirst Corporation

Contractor GeoSearch | Driller S. Law

Inspected by Krista Wolfe | Date Started 2/15/07

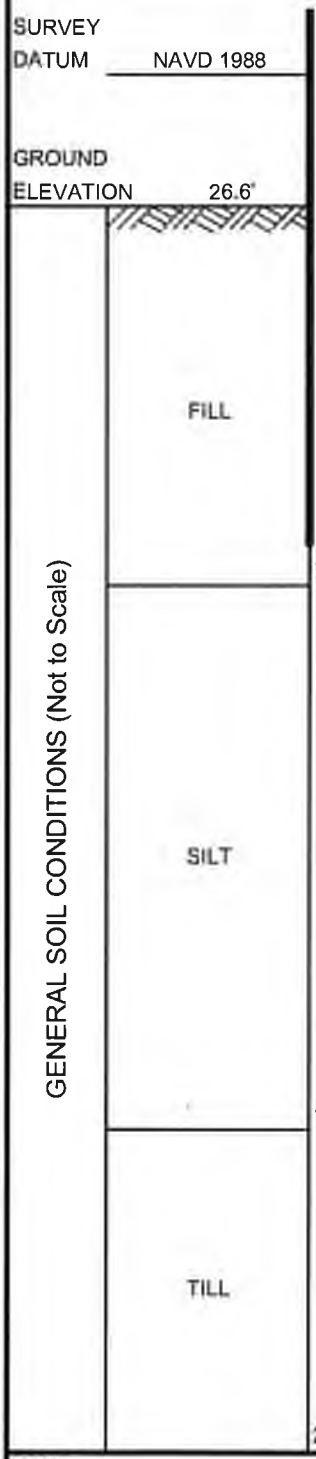
Checked by | Date Completed 2/15/07

PG. 1 OF 1

Boring No. B113

Location American Legion Parking Lot

Project No. 045162



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	8.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Grout
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	6 (0-6') / 4.25 (6-21')
TYPE OF BACKFILL AROUND RISER PIPE	No. 2 Sand
DEPTH TOP OF SEAL, IF ANY (FT)	6.0
TYPE OF SEAL	Granular Bentonite
DEPTH BOTTOM OF SEAL (FT)	8.0
DEPTH TOP OF PERVIOUS SECTION	10.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	20.0
DEPTH BOTTOM OF SAND COLUMN (FT)	20.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	NA
TYPE OF SEAL	NA
ELEV./DEPTH BOTTOM OF SEAL (FT)	NA
TYPE OF BACKFILL BELOW PERVIOUS SECTION, IF ANY	Collapse

NOTES: Soil vapor sampling port installed.

GEI Consultants

GEI Consultants

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW114

DRILLING METHOD: Vac. Ex./Geoprobe
GROUND SURFACE ELEVATION (FT): 29.8
NORTHING: 2964444.04 **EASTING:** 767056.2
DRILLED BY: Geosearch S. Law
LOGGED BY: K. Wolfe & S. Slater

LOCATION: In Front of 21 Alston Street
TOTAL DEPTH (FT): 20
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 2/13/07 - 2/15/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0							Vacuum Excavated to 6'. 0-5": Concrete 5-72": NARROWLY GRADED SAND WITH GRAVEL (SP); ~65% medium sand, ~35% fine to coarse gravel, light brown, dry, FILL.
2							
4					3.7 (Vac)		
6	S1	60	60	NM	0.3 (S1)		S1: SILT (ML); ~95% nonplastic silt, ~5% fine gravel, light brown, dry, SILT.
8							
10							
12	S2	60	46	NM	0.0 (S2)		S2: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% fine to coarse sand, ~15% fine to coarse gravel, 10% nonplastic fines, light brown, wet at 24", TILL.
14							
16	S3	48	12	NM	NM (S3a)		S3a (0-1"): Similar to S2a (0-46"), TILL. S3b (1-12"): CRUSHED STONE, gray, BOULDER.
18					0.0 (S3b)		
20							Bottom of borehole at 20', no refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN = INCHES
FT = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN WITH 140 LB SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

Boring vacuum excavated to 6.0 feet, backfilled with cuttings and cold-patched on February 13, 2007. Boring completed with Geoprobe on February 15, 2007. No blow counts are collected during Geoprobe drilling. Monitoring well with soil gas sampling port installed. Environmental samples taken from 2'-4', 11'-13' and 19'-20'.

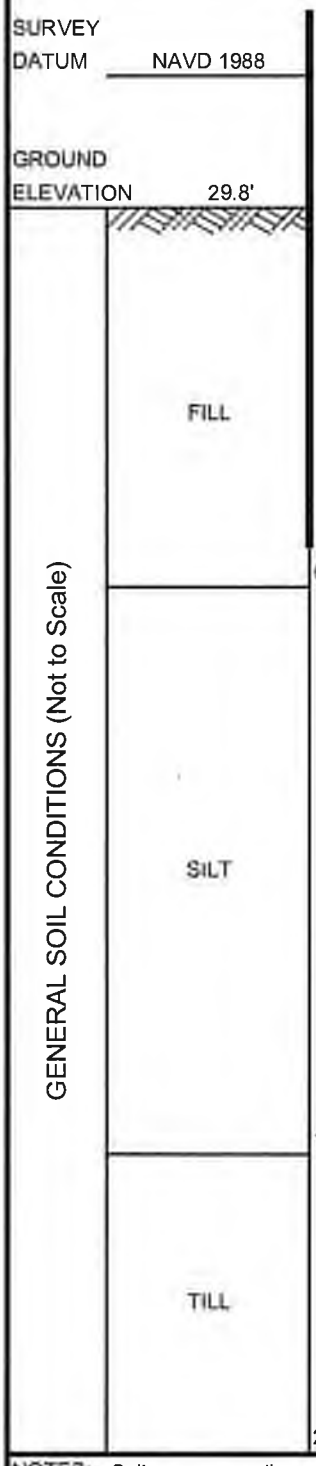
LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW114

Project	50 Tufts Street	PG.	1 OF 1
Location	Somerville, MA		
Client	UniFirst Corporation	Boring No.	B114
Contractor	GeoSearch	Driller	S. Law
Location	In front of 21 Alston Street		
Inspected by	Krista Wolfe	Date Started	2/15/07
Checked by		Date Completed	2/15/07
Project No.	045162		



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	8.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Grout
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	6 (0-6') / 3 (6-20')
TYPE OF BACKFILL AROUND RISER PIPE	No. 2 Sand
DEPTH TOP OF SEAL, IF ANY (FT)	3.0
TYPE OF SEAL	Granular Bentonite
DEPTH BOTTOM OF SEAL (FT)	5.0
DEPTH TOP OF PERVIOUS SECTION	7.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	17.0
DEPTH BOTTOM OF SAND COLUMN (FT)	17.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	NA
TYPE OF SEAL	NA
ELEV./DEPTH BOTTOM OF SEAL (FT)	NA
TYPE OF BACKFILL BELOW PERVIOUS SECTION, IF ANY	Collapse

NOTES: Soil vapor sampling port installed.

GEI Consultants

GEI Consultants

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW115

DRILLING METHOD: Vac. Ex./Geoprobe
GROUND SURFACE ELEVATION (FT): 27.3
NORTHING: 2964202.14 **EASTING:** 767233.6
DRILLED BY: GeoSearch S. Law
LOGGED BY: K. Wolfe & S. Slater

LOCATION: In Front of 50 Alston Street
TOTAL DEPTH (FT): 21
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 2/13/07 - 2/15/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0							Vacuum Excavated to 6'. 0-5": Concrete 5-24": BOULDERS. 24-72": SILTY SAND WITH GRAVEL (SM); ~45% fine to coarse sand, ~40% nonplastic silt, ~15% fine to coarse gravel, light brown, dry, FILL.
2					1.9 (Vac)		
4							
6	S1	60	60	NM	3.4 (S1a)		S1a (0-14"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% fine to coarse sand, ~30% fine to coarse gravel, ~10% nonplastic silt, light brown, dry, FILL.
8					0.0 (S1b)		S1b (14-36"): SILTY SAND (ML); ~50% fine sand, ~40% nonplastic silt, ~10% fine gravel, light brown, dry, FILL.
10					1.0 (S1c)		S1c (36-60"): SILT (ML), ~95% nonplstic silt, <5% fine gravel, light brown, dry, SILT.
12	S2	60	60	NM	0.7 (S2)		S2: Similar to S1c (36-60"), SILT.
14							
16	S3	60	29	NM	1.2 (S3a)		S3a (0-17"): CRUSHED STONE; gray, dry, BOULDERS.
18					0.9 (S3b)		S3b (17-29"): Simlar to S3a (0-17"), BOULDERS.
20							Refusal at 21feet. Bottom of borehole.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Boring vacuum excavated to 6 0 feet, backfilled with cuttings and cold-patched on February 13, 2007. Boring drilled with Geoprobe on February 15, 2007. No blow counts are collected during Geoprobe drilling. Because of Geoprobe refusal at 21', the well not set deep enough to reach groundwater. It was replaced with a deeper well on February 21, 2007 using hollow-stem augers. Monitoring well with soil gas sampling port installed. Environmental samples taken from 2'-4', and 18'-20'.

LITHOLOGY:

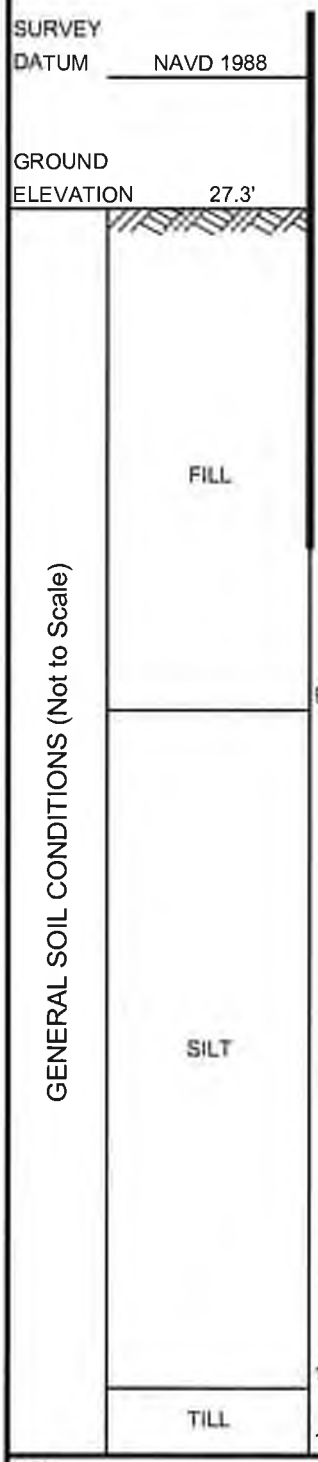
ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW115

Project: 50 Tufts Street
Location: Somerville, MA
Client: UniFirst Corporation
Contractor: GeoSearch
Driller: Steve Law
Inspected by: Krista Wolfe & Samantha Slater
Date Started: 2/13/07
Checked by:
Date Completed: 2/15/07

PG. 1 OF 1
Boring No.: B115
Location: In front of 50 Alston Street
Project No.: 045162



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	8.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Grout
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	6 (0-6') / 4.5 (6-25')
TYPE OF BACKFILL AROUND RISER PIPE	No. 2 Sand
DEPTH TOP OF SEAL, IF ANY (FT)	5.0
TYPE OF SEAL	Granular Bentonite
DEPTH BOTTOM OF SEAL (FT)	6.0
DEPTH TOP OF PERVIOUS SECTION	7.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	17.0
DEPTH BOTTOM OF SAND COLUMN (FT)	17.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	NA
TYPE OF SEAL	NA
ELEV./DEPTH BOTTOM OF SEAL (FT)	NA
TYPE OF BACKFILL BELOW PERVIOUS SECTION, IF ANY	None

NOTES: Soil Vapor Sampling Port Installed

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400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW115R

DRILLING METHOD: Hollow-Stem Auger
GROUND SURFACE ELEVATION (FT): 27.3
NORTHING: 2964202.14 **EASTING:** 767233.6
DRILLED BY: GeoSearch Mike and Artey
LOGGED BY: K. Wolfe & S. Slater

LOCATION: In Front of 50 Alston Street
TOTAL DEPTH (FT): 25
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 2/21/07 - 2/21/07

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0-20							0-21': Monitoring well dry. Well removed by hydraulic winch. Augered to 21'. For stratigraphy refer to boring log MW115 from 2/13/07.
20-22	S1	24	0	NM	NM		21-23': Difficult drilling- augered 24" but no split spoon recovery.
22-24	S2	24	0	NM	NM		23-25': Difficult drilling- augered 24" but no split spoon recovery.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

Because of Geoprobe refusal at 21' on Febuary 15, 2007, the well was not adequately screened below the water table. The monitoring well was over-excavated with Hollow-Stem Auger and a new monitoring well was installed on February 21, 2007. Environmental samples collected from 19-20'.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

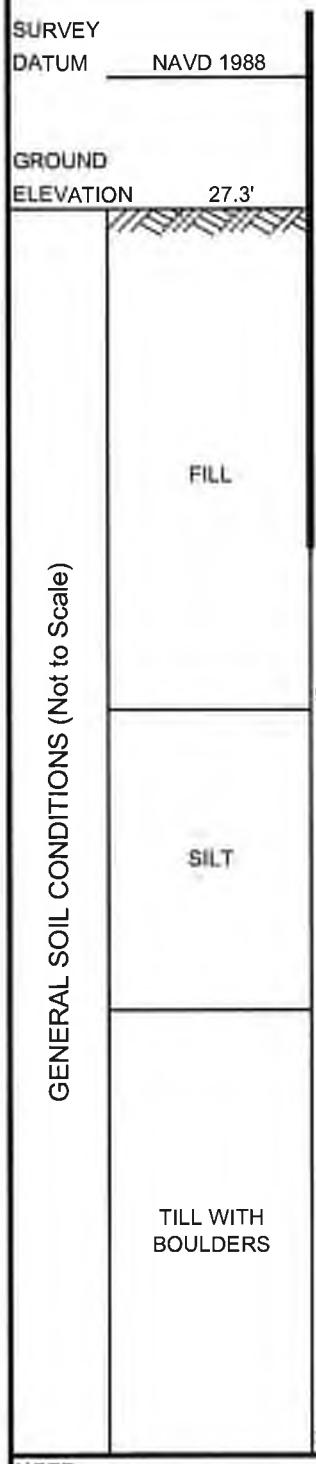
GROUNDWATER OBSERVATION WELL REPORT

MW115R

PG. 1 OF 1

Project	50 Tufts Street		
Location	Somerville, MA		
Client	UniFirst Corporation		
Contractor	GeoSearch	Driller	Mike & Artey
Inspected by	Krista Wolfe	Date Started	2/21/07
Checked by		Date Completed	2/21/07

Boring No.	B115R
Location	In front of 50 Alston Street
Project No.	045162



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	8.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Grout
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	6 (0-6') / 4.5 (6-25')
TYPE OF BACKFILL AROUND RISER PIPE	No. 2 Sand
DEPTH TOP OF SEAL, IF ANY (FT)	6.0
TYPE OF SEAL	Granular Bentonite
DEPTH BOTTOM OF SEAL (FT)	8.0
DEPTH TOP OF PERVIOUS SECTION	10.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	25.0
DEPTH BOTTOM OF SAND COLUMN (FT)	25.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	NA
TYPE OF SEAL	NA
ELEV./DEPTH BOTTOM OF SEAL (FT)	NA
TYPE OF BACKFILL BELOW PERVIOUS SECTION, IF ANY	None

NOTES: A well was installed on 2/15/07 with a geoprobe that was not set deep enough to reach groundwater (geoprobe hit refusal at 17'). This well log is for the replacement well that was installed. Soil vapor sampling port installed.

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Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW116

DRILLING METHOD: Vac Ex., HSA, Air-rotary
GROUND SURFACE ELEVATION (FT): 13.6
NORTHING: 2964556.29 **EASTING:** 767934.7
DRILLED BY: Geosearch R. Dean
LOGGED BY: H.Ballantyne

LOCATION: Location
TOTAL DEPTH (FT): 16
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 3/10/07 -

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0	S1	42	NA	NA	0.0		S1 (0-8"): ASPHALT S1 (8-42"): SILTY SAND WITH GRAVEL (SM); ~40% fine to medium sand, ~30% fine to coarse angular to sub-angular gravel (up to 3"-diameter), ~20% silt, ~10% coarse sand, boulders and cobbles throughout, dry, dense, olive to brown, TILL.
4	S2	12.5	NA	NA	NM		S2: BEDROCK; Gray, slaty cleavage, wet, dense, CAMBRIDGE ARGILLITE.
16							Bottom of borehole at 16 feet, no refusal

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

The boring location was vacuum excavated to 3.5 feet prior to drilling. After encountering a rock at 3.5', Geosearch attempted to auger through the obstruction. When they were not able to auger through the rock, they switched to air-rotary when it became apparent they were in bedrock.

LITHOLOGY:

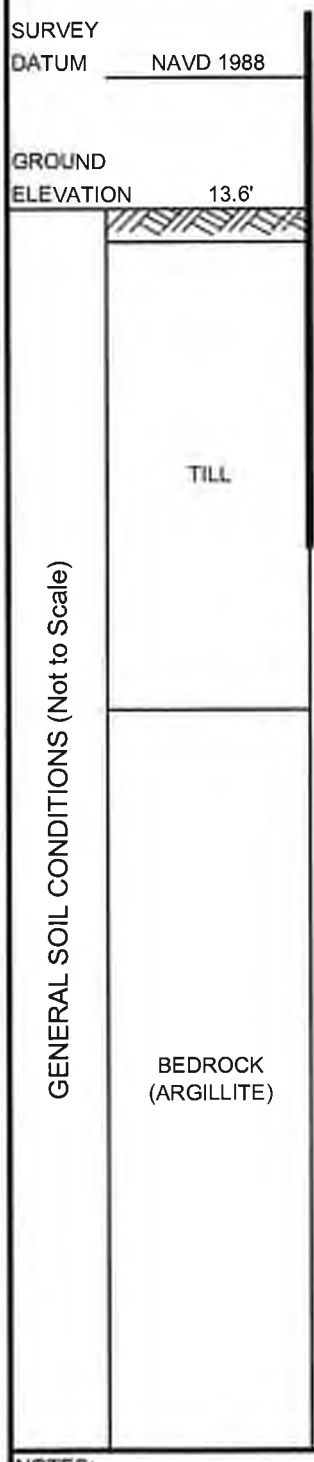
ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW116

Project: 50 Tufts Street
Location: Somerville, MA
Client: UniFirst Corporation
Contractor: Geosearch
Driller: Rodney Dean
Inspected by: Heather Ballantyne
Date Started: 3/10/07
Checked by:
Date Completed: 3/10/07

PG. 1 OF 1
Boring No.: B116
Location: South side of Capuano School
Project No.: 045162



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	6.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Cement
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	4.5
TYPE OF BACKFILL AROUND RISER PIPE	No. 1 Sand
DEPTH TOP OF SEAL, IF ANY (FT)	0.5
TYPE OF SEAL	Bentonite Chips
DEPTH BOTTOM OF SEAL (FT)	4.5
DEPTH TOP OF PERVIOUS SECTION	5.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 1 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	15.0
DEPTH BOTTOM OF SAND COLUMN (FT)	15.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	---
TYPE OF SEAL	---
ELEV./DEPTH BOTTOM OF SEAL (FT)	---
TYPE OF BACKFILL BELOW PERVIOUS SECTION,	rock chips

NOTES:

Soil vapor sampling port installed.

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Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW117S

DRILLING METHOD: HSA
GROUND SURFACE ELEVATION (FT): 22.2
NORTHING: 2963857.93 EASTING: 768060.38
DRILLED BY: Geosearch P. Hienz
LOGGED BY: H. Ballantyne

LOCATION: New Washington Street
TOTAL DEPTH (FT): 20
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 6/20/07 - 6/20/07

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0		NA	NA	NM	NM		Refer to boring log for MW117D for stratigraphy.
20							Bottom of boring at 20 feet, no refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
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PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Soil vapor sampling port installed

LITHOLOGY:

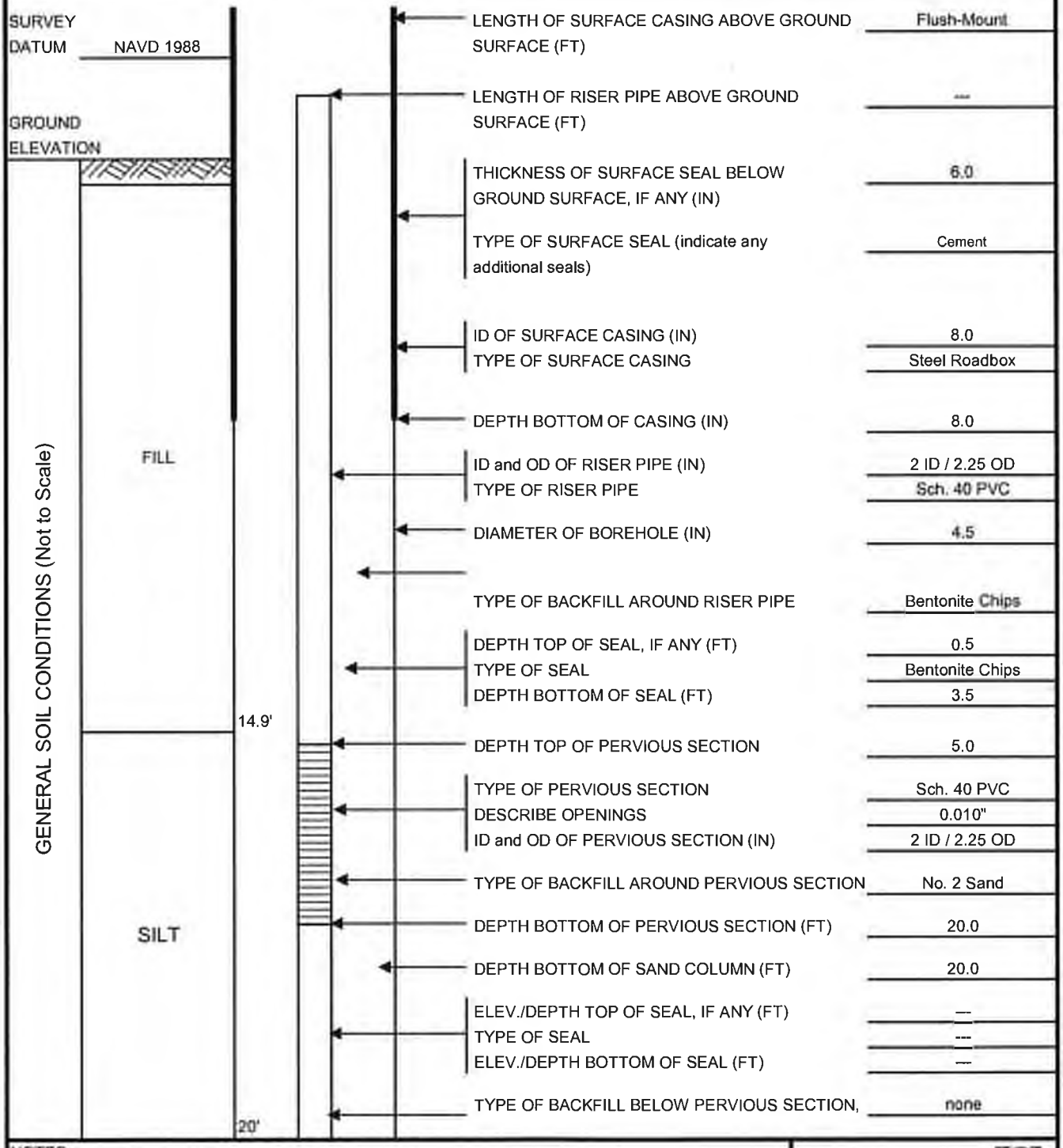
ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW117S

PG. 1 OF 1

Project	50 Tufts Street		
Location	Somerville, MA	Boring No.	MW117S
Client	UniFirst Corporation	Location	New Washington Street
Contractor	Geosearch	Driller	Patrick Hienz
Inspected by	Heather Ballantyne	Date Started	6/20/07
Checked by		Date Completed	6/20/07
		Project No.	045162



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	6.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Cement
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	8.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	4.5
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips
DEPTH TOP OF SEAL, IF ANY (FT)	0.5
TYPE OF SEAL	Bentonite Chips
DEPTH BOTTOM OF SEAL (FT)	3.5
DEPTH TOP OF PERVIOUS SECTION	5.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	20.0
DEPTH BOTTOM OF SAND COLUMN (FT)	20.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	---
TYPE OF SEAL	---
ELEV./DEPTH BOTTOM OF SEAL (FT)	---
TYPE OF BACKFILL BELOW PERVIOUS SECTION,	none

NOTES: Soil vapor sampling port installed.

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Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW117T

DRILLING METHOD: HSA/Drive and Wash
GROUND SURFACE ELEVATION (FT): 22.2
NORTHING: 2963859.89 **EASTING:** 768064.45
DRILLED BY: Geosearch P.Hienz
LOGGED BY: H.Ballantyne

LOCATION: New Washington Street
TOTAL DEPTH (FT): 45
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 6/22/07 - 6/22/07

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0		NA	NA	NM	NM		Refer to boring log for MW117D for stratigraphy.
2							
4							
6							
8							
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							
42							
44							Bottom of boring at 45 feet, no refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

Boring drilled using 4.5" hollow stem augers from 0 to 20 feet, and 4" casing from 20 to 45 feet.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW117T

Project: 50 Tufts Street
Location: Somerville, MA
Client: UniFirst Corporation
Contractor: GeoSearch
Driller: Patrick Hienz
Inspected by: Heather Ballantyne
Date Started: 6/22/07
Checked by:
Date Completed: 6/22/07

PG. 1 OF 1
Boring No. MW117T
Location New Washington Street
Project No. 045162

SURVEY DATUM: NAVD 1988

GROUND ELEVATION

GENERAL SOIL CONDITIONS (Not to Scale)

FILL

14.9'

SILT

30'

TILL

45'

LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	6.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Cement
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	4.5 (0-20'), 4 (20-45')
TYPE OF BACKFILL AROUND RISER PIPE	Grout
DEPTH TOP OF SEAL, IF ANY (FT)	30.0
TYPE OF SEAL	Bentonite Chips
DEPTH BOTTOM OF SEAL (FT)	33.0
DEPTH TOP OF PERVIOUS SECTION	35.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	45.0
DEPTH BOTTOM OF SAND COLUMN (FT)	45.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	---
TYPE OF SEAL	---
ELEV./DEPTH BOTTOM OF SEAL (FT)	---
TYPE OF BACKFILL BELOW PERVIOUS SECTION,	none

NOTES: Boring drilled with 4.5" hollow stem augers to 20', and 4" casing from 20-45'.

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400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 4
MW117D

DRILLING METHOD: Vac Ex./HSA/Drive and Wash
GROUND SURFACE ELEVATION (FT): 22.1
NORTHING: 2953860.08 **EASTING:** 768061.60
DRILLED BY: Geosearch P. Hienz
LOGGED BY: H. Ballantyne

LOCATION: New Washington Street
TOTAL DEPTH (FT): 70
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 6/15/07 - 6/20/07

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0							
2	VX1	NA	NA	NM	173		VX1: SILTY SAND WITH GRAVEL (SM); ~60% fine to coarse sand, ~20% silt, ~20% fine to coarse angular to sub-angular gravel (up to 2"-diameter), trace cobbles, trace glass, trace asphalt, dry, loose, brown, slight petroleum-like odor, FILL.
4							
6							
8	S1	24	7	1 1 1 1	17.4		S1: SILTY SAND (SM); ~70% fine to coarse sand, ~25% silt, ~5% fine to medium angular gravel (up to 0.25"-diameter), trace glass, dry, loose, brown, FILL.
10	S2	24	12	2 1 3 1	57		S2: Similar to S1, but bottom 3" of sample are wet.
12	S3	24	11	5 11 11 12	980		S3: SILTY SAND WITH GRAVEL (SM); ~60% fine to coarse sand, ~25% silt, ~15% fine to coarse angular to sub-angular gravel (up to 3"-diameter), brick fragments, wet, loose, brown, FILL.
14	S4	24	15	5 8 8 7	33 (0-4") 160 (4-10") 100 (10-15")		S4 (0-4"): Similar to S3. S4 (4-10"): NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% medium to coarse sand, ~10% silt, loose, brown, FILL. S4 (10-15"): SANDY SILT (ML); ~60% silt, ~40% fine sand, stratified, wet, dense, olive to gray, SILT.
16	S5	24	20	8 12 13 12	250 (0-8") 130 (8-20")		S5 (0-8"): NARROWLY GRADED SAND (SP); ~95% medium to coarse sand, ~5% silt, wet, loose, gray, SAND. S5 (8-20"): SILT (ML); ~90% silt, ~10% fine sand, homogeneous, low plasticity, slow dilatency, moderate strength, wet, olive to gray, SILT.
18	S6	24	20	1 2 3 4	600		S6: Similar to S5 (8-20").
20	S7	24	22	1 1	561		

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN WITH 140 LB SAFETY HAMMER FALLING 30 IN TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

Boring drilled with 4.5" hollow stem augers to 20', and 5" casing from 20-70'. Permanent 4" casing was telescoped through the 5" casing and seated in bedrock from 45 to 48.5'. Permanent casing was grouted in place. Rock cores are HQ (2.5"-diameter).

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 2 of 4
MW117D

DRILLING METHOD: Vac Ex./HSA/Drive and Wash
GROUND SURFACE ELEVATION (FT): 22.1
NORTHING: 2953860.08 **EASTING:** 768061.60
DRILLED BY: Geosearch P. Hienz
LOGGED BY: H. Ballantyne

LOCATION: New Washington Street
TOTAL DEPTH (FT): 70
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83)
DATE START / END: 6/15/07 - 6/20/07

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
				2 3			S7: SILT (ML); ~95% silt, ~5% fine sand, homogeneous, low plasticity, slow dilatency, medium to high strength, wet, moderately dense, olive to gray, SILT.
22	S8	24	16	2 2 2 3	324		S8: Similar to S7.
24	S9	24	19	1 1 1 1	548		S9: SILT (ML); ~95% silt, < 5% sand, homogeneous, medium to high plasticity, slow dilatency, medium strength, wet, gray, SILT.
26	S10	24	24	2 2 2 3	109		S10: Similar to S9, but higher sand content (~10%) from 0-6".
28	S11	24	14	22 9 8 5	452		S11 (0-7"): Similar to S9. S11 (7-14"): SILTY SAND (SM); ~60% fine to coarse sand, ~30% silt, ~10% fine to coarse angular to subangular gravel (up to 2"-diameter), wet, dense, gray , TILL.
30	S12	24	5	WH 2 2 3	66		S12: SILTY SAND (SM); ~70% fine to coarse sand, ~25% silt, ~5% medium to coarse sub-rounded gravel (up to 1"-diameter), wet, dense, gray, TILL.
32	S13	24	17	28 18 23 25	98		S13: Similar to S12, but slightly more dense.
34	S14	24	9	10 6 6 9	36		S14: SILTY SAND (SM); ~80% fine to coarse sand, ~10% silt, ~10% fine to coarse sub-rounded gravel (up to 1.5" diameter), wet, dense, gray , TILL.
36	S15	24	10	28 18 19 18	127		S15: Similar to S14.
38	S16	24	11	12 20 23 25	387		S16: SILTY SAND WITH GRAVEL (SM); ~60% fine to coarse sand, ~30% fine to coarse sub-rounded gravel (up to 2"-diameter), less dense than S15, wet, gray, TILL.
40	S17	24	12	14 30 29 30	432		S17: SILTY SAND (SM); ~70% fine to coarse sand, ~20% silt, ~10% fine to coarse sub-rounded gravel (up to 1"-diameter), wet, dense, gray , TILL.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
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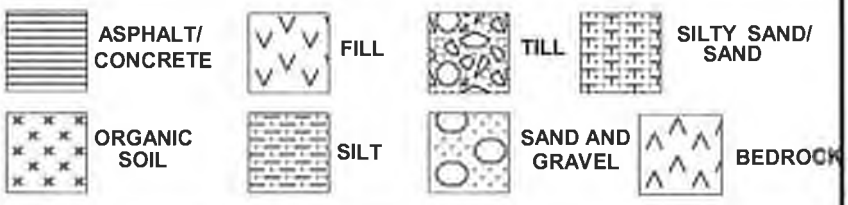
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Boring drilled with 4.5" hollow stem augers to 20', and 5" casing from 20-70'. Permanent 4" casing was telescoped through the 5" casing and seated in bedrock from 45 to 48.5'. Permanent casing was grouted in place. Rock cores are HQ (2.5"-diameter)

LITHOLOGY:



GEI Consultants

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 3 of 4
MW117D

DRILLING METHOD: Vac Ex./HSA/Drive and Wash
GROUND SURFACE ELEVATION (FT): 22.1
NORTHING: 2953860.08 **EASTING:** 768061.60
DRILLED BY: Geosearch P. Hienz
LOGGED BY: H. Ballantyne

LOCATION: New Washington Street
TOTAL DEPTH (FT): 70
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83)
DATE START / END: 6/15/07 - 6/20/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
42	S18	24	0	NA	NM		S18: No recovery.
44	S19	24	16	23 30 32 30	248		S19: Similar to S17, but gravel is finer (up to 0.25"-diameter), and more rounded.
46	S20	11	9	18 100/5"	111		S20: Similar to S18, but with weathered rock chips in tip of spoon.
48	S21	15	1	20 23 100/3"	NM		S21: ROCK CHIPS. Soft, highly weathered, gray with some slaty cleavage visible, ARGILLITE (Cambridge Argillite).
50	C1	54	54	4:00 2:34 3:59 4:45	0		C1: BEDROCK; highly fractured with moderate to high weathering along fractures, dense, dark gray to green, ARGILLITE (Cambridge Argillite). RQD = 40% (no pieces > 4" in bottom 6" of core run).
52							
54	C2	6	6	1:55	0		C2: Similar to C1. RQD = 0%.
56	C3	60	60	4:10 3:15 3:55 4:05 4:16	0		C3: Similar to C1 and C2, but slightly less fractured. RQD = 44%.
58							
60	C4	60	60	4:48 3:26 3:49 3:07 3:34	NM		C4: Similar to C3 and above. RQD = 40%.
62							

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB SAFETY HAMMER FALLING 30 IN TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

Boring drilled with 4.5" hollow stem augers to 20', and 5" casing from 20-70'. Permanent 4" casing was telescoped through the 5" casing and seated in bedrock from 45 to 48.5'. Permanent casing was grouted in place. Rock cores are HQ (2.5"-diameter).

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GEI Consultants

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 4 of 4
MW117D

DRILLING METHOD: Vac Ex./HSA/Drive and Wash
GROUND SURFACE ELEVATION (FT): 22.1
NORTHING: 2953860.08 **EASTING:** 768061.60
DRILLED BY: Geosearch P. Hienz
LOGGED BY: H. Ballantyne

LOCATION: New Washington Street
TOTAL DEPTH (FT): 70
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83)
DATE START / END: 6/15/07 - 6/20/07

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
64							
	C5	38	24	5:14 4:11 7:34 6:39	NM		C5: Similar to C4 and above, but very highly fractured, especially from 2 to 3.2 feet of core, slight to moderate weathering along fractures. RQD = 0%.
68	C6	22	22	2:09 5:22	NM		C6: Similar to C5. RQD = 0%.
70							Bottom of boring at 70 feet, no refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

Boring drilled with 4 5" hollow stem augers to 20', and 5" casing from 20-70'. Permanent 4" casing was telescoped through the 5" casing and seated in bedrock from 45 to 48.5'. Permanent casing was grouted in place. Rock cores are HQ (2.5"-diameter).

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW117D

Project 50 Tufts Street

Location Somerville, MA

Client UniFirst Corporation

Contractor Geosearch | Driller Patrick Hienz

Inspected by Heather Ballantyne | Date Started 6/21/07

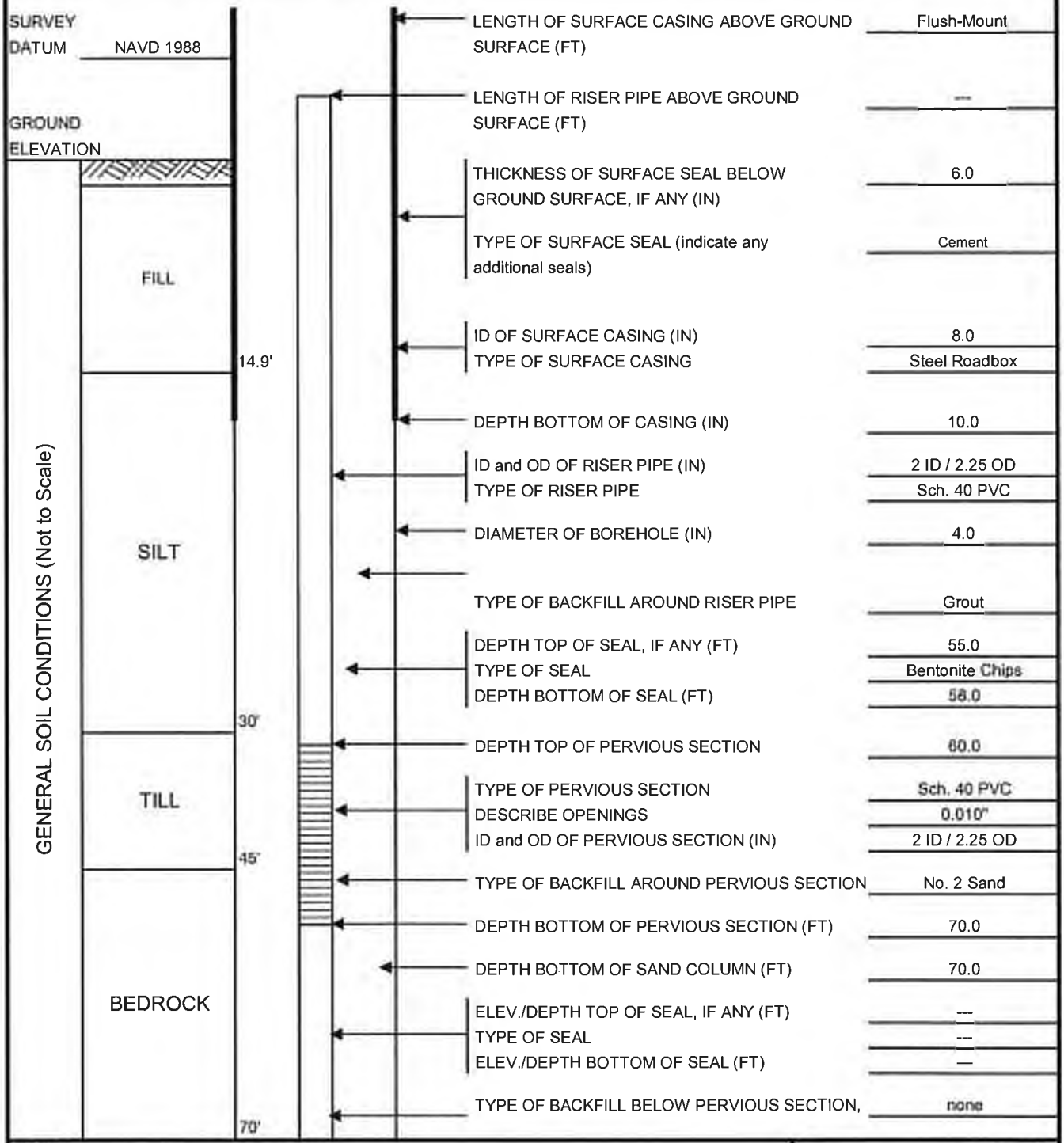
Checked by | Date Completed 6/21/07

PG. 1 OF 1

Boring No. MW117D

Location New Washington Street

Project No. 045162



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	6.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Cement
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	4.0
TYPE OF BACKFILL AROUND RISER PIPE	Grout
DEPTH TOP OF SEAL, IF ANY (FT)	55.0
TYPE OF SEAL	Bentonite Chips
DEPTH BOTTOM OF SEAL (FT)	58.0
DEPTH TOP OF PERVIOUS SECTION	60.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	70.0
DEPTH BOTTOM OF SAND COLUMN (FT)	70.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	---
TYPE OF SEAL	---
ELEV./DEPTH BOTTOM OF SEAL (FT)	---
TYPE OF BACKFILL BELOW PERVIOUS SECTION,	none

NOTES: Boring drilled with 4.5" hollow stem augers to 20', and 5" casing from 20-70'. Permenant 4" casing was telescoped through the 5" casing and seated in bedrock from 45 to 48.5'.

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Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG

PAGE 1 of 1

MW118S

DRILLING METHOD: HSA
GROUND SURFACE ELEVATION (FT): 15.7
NORTHING: 2964262.19 **EASTING:** 768342.81
DRILLED BY: Geosearch P. Hienz
LOGGED BY: H.Ballantyne

LOCATION: Cobble Hill Apartments, Washington Street
TOTAL DEPTH (FT): 14
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 7/2/07 - 7/2/07

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0	NA	NM	NM	NM	NM		Refer to boring log for MW118D for stratigraphy.
14							Bottom of boring at 14 feet, no refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Soil vapor sampling port installed.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW118S

Project: 50 Tufts Street
Location: Somerville, MA
Client: UniFirst Corporation
Contractor: GeoSearch
Driller: Patrick Hienz
Inspected by: Heather Ballantyne
Date Started: 7/2/07
Checked by:
Date Completed: 7/2/07

PG. 1 OF 1
Boring No. MW118S
Location: Cobble Hill Apts. Washington St.
Project No. 045162

SURVEY DATUM: NAVD 1988

GROUND ELEVATION

GENERAL SOIL CONDITIONS (Not to Scale)

FILL

9.4'

SILT

14'

LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	—
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	6.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Cement
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	4.5
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips
DEPTH TOP OF SEAL, IF ANY (FT)	0.5
TYPE OF SEAL	Bentonite Chips
DEPTH BOTTOM OF SEAL (FT)	2.0
DEPTH TOP OF PERVIOUS SECTION	3.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	14.0
DEPTH BOTTOM OF SAND COLUMN (FT)	14.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	---
TYPE OF SEAL	---
ELEV./DEPTH BOTTOM OF SEAL (FT)	---
TYPE OF BACKFILL BELOW PERVIOUS SECTION,	none

NOTES: Soil vapor sampling port installed.

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Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW118T

DRILLING METHOD: Drive and Wash
GROUND SURFACE ELEVATION (FT): 15.7
NORTHING: 2964261.12 EASTING: 768338.78
DRILLED BY: Geosearch P. Hienz
LOGGED BY: H.Ballantyne

LOCATION: Cobble Hill Apartments, Washington Street
TOTAL DEPTH (FT): 50.5
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 6/28/07 - 6/28/07

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0		NA	NA	NM	NM		Refer to boring log for MW118D for stratigraphy.

0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

Boring drilled using 4.5" hollow stem augers from 0 to 12.5 feet, and drive and wash drilling with 5" casing from 12.5 to 34 feet, and 4" casing from 34 to 50 feet.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW118T

Project 50 Tufts Street

Location Somerville, MA

Client UniFirst Corporation

Contractor Geosearch | Driller Patrick Hienz

Inspected by Heather Ballantyne | Date Started 6/28/07

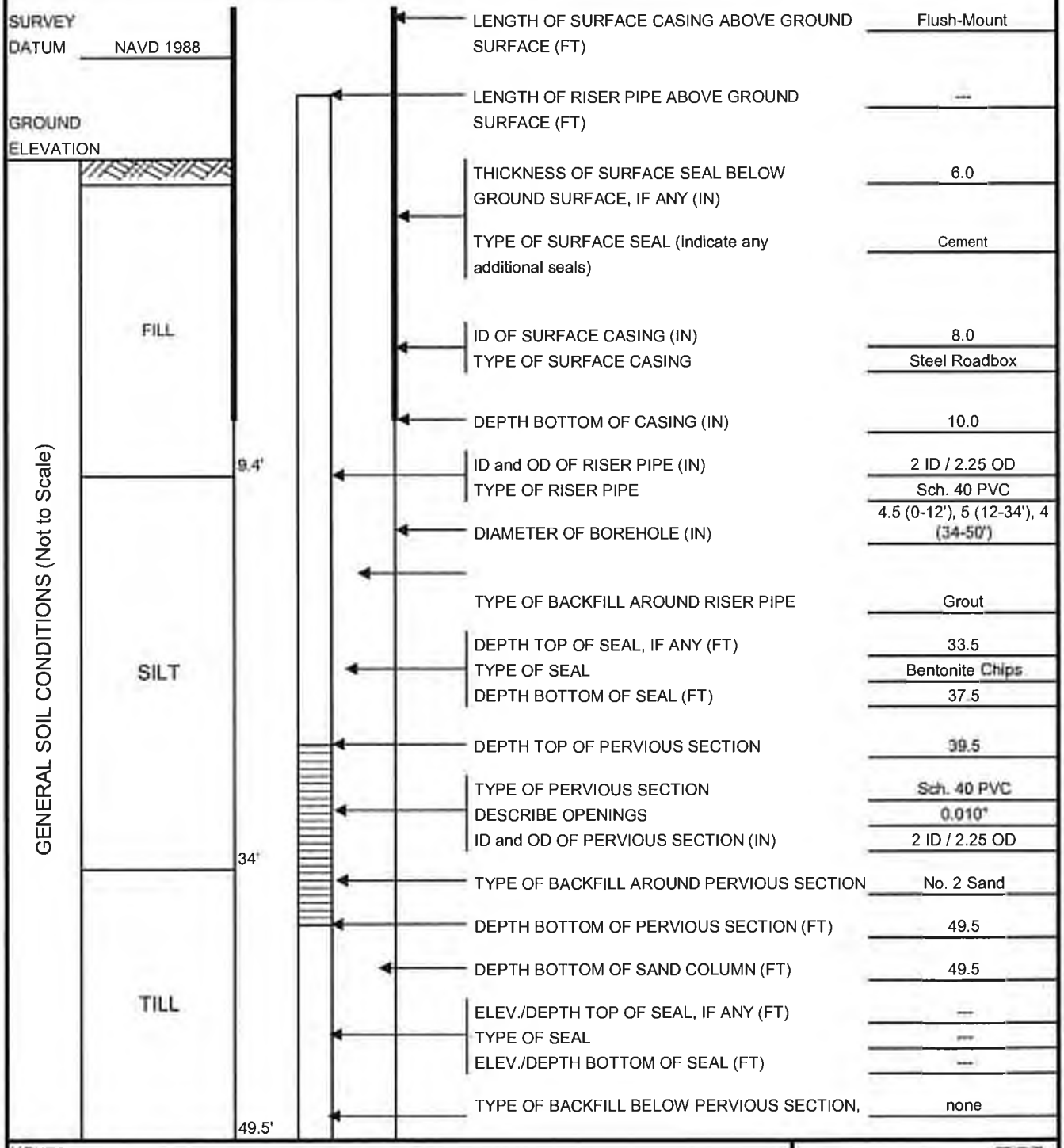
Checked by | Date Completed 6/28/07

PG. 1 OF 1

Boring No. MW118T

Location Cobble Hill Apts. Washington St.

Project No. 045162



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	6.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Cement
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	4.5 (0-12'), 5 (12-34'), 4 (34-50')
TYPE OF BACKFILL AROUND RISER PIPE	Grout
DEPTH TOP OF SEAL, IF ANY (FT)	33.5
TYPE OF SEAL	Bentonite Chips
DEPTH BOTTOM OF SEAL (FT)	37.5
DEPTH TOP OF PERVIOUS SECTION	39.5
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	49.5
DEPTH BOTTOM OF SAND COLUMN (FT)	49.5
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	---
TYPE OF SEAL	---
ELEV./DEPTH BOTTOM OF SEAL (FT)	---
TYPE OF BACKFILL BELOW PERVIOUS SECTION,	none

NOTES: Boring drilled with 4.5" hollow stem augers to 20', and 4" casing from 20-45'.

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Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 4
MW118D

DRILLING METHOD: HSA/Drive and Wash
GROUND SURFACE ELEVATION (FT): 15.6
NORTHING: 2964261.25 **EASTING:** 768339.87
DRILLED BY: Geosearch P. Hienz
LOGGED BY: H. Ballantyne

LOCATION: Cobble Hill Apartments, Washington Street
TOTAL DEPTH (FT): 80
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 6/25/07 - 7/2/07

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0	S1	24	18	6 12 23 27	17		S1: NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~65% fine to medium sand, ~15% fine to coarse sub-angular to sub-rounded gravel (up to 2"-diameter), ~10% coarse sand, ~10% silt, trace asphalt, trace brick, roots throughout, dry, loose, brown, FILL.
2							
4							
6	S2	24	10	8 9 35 19	8.7		S2: Similar to S1.
8							
10	S3	24	16	4 8 5 14	3.6 (0-5") 1.9 (5-16")		S3 (0-5"): SILTY SAND (SM); ~70% medium to coarse sand, ~25% silt, ~5% medium to coarse angular gravel (up to 1.5"-diameter), wet, loose, gray, petroleum-like odor, FILL. S3 (5-16"): SILT (ML); ~90% silt, ~10% fine sand, homogeneous, low to medium plasticity, slow dilatency, high strength, wet, dense, mottled olive to gray, SILT.
12							
14	S4	24	21	6 6 8 11	0.5		S4: Similar to S3 (5-16"), but medium to high plasticity and gray.
16							
18							
20	S5	24	16	4 5 7 9	0.6		S5: Similar to S4.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

Borehole was drilled with 4.5" hollow stem augers from 0 to 12 feet, 6" casing from 12 to 21 feet, and 5" casing from 21 to 51 feet. Permanent 4" casing was telescoped through the 5" casing and seated in bedrock from 51 to 54 feet. Permanent casing was grouted in place prior to rock coring. Rock core was HQ type (2.5" diameter).

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GEI Consultants

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 2 of 4
MW118D

DRILLING METHOD: HSA/Drive and Wash
GROUND SURFACE ELEVATION (FT): 15.6
NORTHING: 2964261.25 **EASTING:** 768339.87
DRILLED BY: Geosearch P. Hienz
LOGGED BY: H. Ballantyne

LOCATION: Cobble Hill Apartments, Washington Street
TOTAL DEPTH (FT): 80
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83)
DATE START / END: 6/25/07 - 7/2/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
22							
24	S6	24	24	3 3 4 5	0.7		S6: SILT (ML); ~95% silt, ~5% fine sand, homogeneous, high plasticity, slow dilatency, high strength, wet, moderately dense, gray, SILT.
26	S7	24	24	7 8 7 7	0.4		S7: Similar to S6, but very high plasticity (sample slightly liquefied/flowing in spoon).
28	S8	24	24	2 1 1 3	0.1		S8: Similar to S7 and above.
30	S9	24	24	2 2 3 5	0.0		S9: Similar to S8 and above.
32	S10	24	24	3 3 4 4	0.0		S10: Similar to S9 and above, but sample slightly liquified/flowing in spoon.
34	S11	24	24	2 2 3 4	0.0		S11: Similar to S10 and above.
36	S12	9	9	2 50/3"	0.0		S12: Pushed 3" cobble in split spoon, recovery was mostly blow-in, however recovered soil was similar to S11 and above.
38	S13	24	0	50 8 5 17	NM		S13: No recovery, pushed rock in split spoon.
40	S14	3	0	100/3"	NM		S14: No recovery.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Borehole was drilled with 4.5" hollow stem augers from 0 to 12 feet, 6" casing from 12 to 21 feet, and 5" casing from 21 to 51 feet. Permanent 4" casing was telescoped through the 5" casing and seated in bedrock from 51 to 54 feet. Permanent casing was grouted in place prior to rock coring. Rock core was HQ type (2.5" diameter).

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 3 of 4
MW118D

DRILLING METHOD: HSA/Drive and Wash
GROUND SURFACE ELEVATION (FT): 15.6
NORTHING: 2964261.25 **EASTING:** 768339.87
DRILLED BY: Geosearch P. Hienz
LOGGED BY: H. Ballantyne

LOCATION: Cobble Hill Apartments, Washington Street
TOTAL DEPTH (FT): 80
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83)
DATE START / END: 6/25/07 - 7/2/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
42	S15	24	10	3 22 23 25	0.0 (0-5") 0.0 (5-10")		S15 (0-5"): WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~75% fine to coarse angular to sub-angular gravel (up to 2"-diameter), ~15% medium to coarse sand, ~10% silt, wet, loose, gray, TILL. S15 (5-10"): SILTY SAND WITH GRAVEL (SM); ~60% fine to coarse sand, ~20% silt, ~20% fine to coarse angular to sub-angular gravel (up to 2"-diameter), wet, moderately dense, gray, TILL.
44	S16	24	9	19 30 27 22	0.0		S16: SILTY GRAVEL WITH SAND (GM); ~60% fine to coarse angular to sub-angular gravel (up to 1.5"-diameter), ~20% silt, ~20% fine to coarse sand, wet, loose, gray, TILL.
46	S17	6	4	22 100/2"	0.0 (0-5") 0.0 (5-11")		S17: Similar to S16, but 1 piece of angular gravel (up to 2"-diameter).
48	S18	24	11	17 35 36 31	0.0		S18 (0-5"): Similar to S17 and above. S18 (5-11"): SILTY SAND WITH GRAVEL (SM); ~50% fine to coarse sand, ~25% silt, ~25% fine to coarse angular to sub-angular gravel (up to 1.5"-diameter), wet, dense, olive to gray, TILL.
50	S19	14	6	8 55 100/2"	0.0		S19 (0-5"): Similar to S18 (5-11"). S19 (5-6"): WEATHERED BEDROCK; soft, gray, highly friable, Weathered ARGILLITE (Cambridge Argillite).
52							
54							
56	C1	60	60	3:49 5:21 5:46 8:42 14:33	0.0		C1: BEDROCK. Crystalline, highly fractured, highly weathered along fracture planes, hard, white to gray, QUARTZITE (Cambridge Argillite). RQD = 47%.
58							
60	C2	60	38	5:30 3:10 2:39	0.0		C2 (0-22"): Similar to C1. RQD =15% C2 (22-60"): Similar to C2 (0-22") and above, but very highly fractured.
62							

ABBREVIATIONS:

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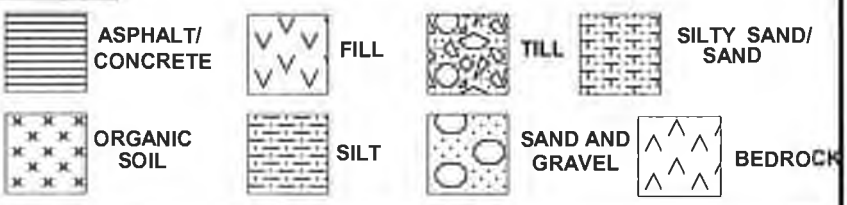
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

Borehole was drilled with 4.5" hollow stem augers from 0 to 12 feet, 6" casing from 12 to 21 feet, and 5" casing from 21 to 51 feet. Permanent 4" casing was telescoped through the 5" casing and seated in bedrock from 51 to 54 feet. Permanent casing was grouted in place prior to rock coring. Rock core was HQ type (2.5" diameter).

LITHOLOGY:



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GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 4 of 4
MW118D

DRILLING METHOD: HSA/Drive and Wash
GROUND SURFACE ELEVATION (FT): 15.6
NORTHING: 2964261.25 **EASTING:** 768339.87
DRILLED BY: Geosearch P. Hienz
LOGGED BY: H. Ballantyne

LOCATION: Cobble Hill Apartments, Washington Street
TOTAL DEPTH (FT): 80
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83)
DATE START / END: 6/25/07 - 7/2/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
64				1:52 4:11			
	C3	60	28	4:04 2:33 2:05 6:18 2:06	0.0		C3: Similar to C2 (22-60") and above, but very highly fractured and very highly weathered. RQD = 7%.
70	C4	36	18	3:14 3:53 8:12	0.0		C4: Similar to C3. RQD =14%.
74	C5	24	24	3:27 3:50	0.0		C5: Similar to C4, but no pieces of core > 4", also moderately weathered. RQD = 0%.
	C6	60	48	3:58 9:55 2:43 3:27 3:50	0.0		C6: BEDROCK. Fine-grained, light gray with small dark gray to blue veins, slightly to moderately fractured, slightly weathered, ARGILLITE (Cambridge Argillite). RQD = 67%.
80							Bottom of boring at 80 feet, no refusal.

ABBREVIATIONS:

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(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Borehole was drilled with 4.5" hollow stem augers from 0 to 12 feet, 6" casing from 12 to 21 feet, and 5" casing from 21 to 51 feet. Permanent 4" casing was telescoped through the 5" casing and sealed in bedrock from 51 to 54 feet. Permanent casing was grouted in place prior to rock coring. Rock core was HQ type (2.5" diameter).

LITHOLOGY:

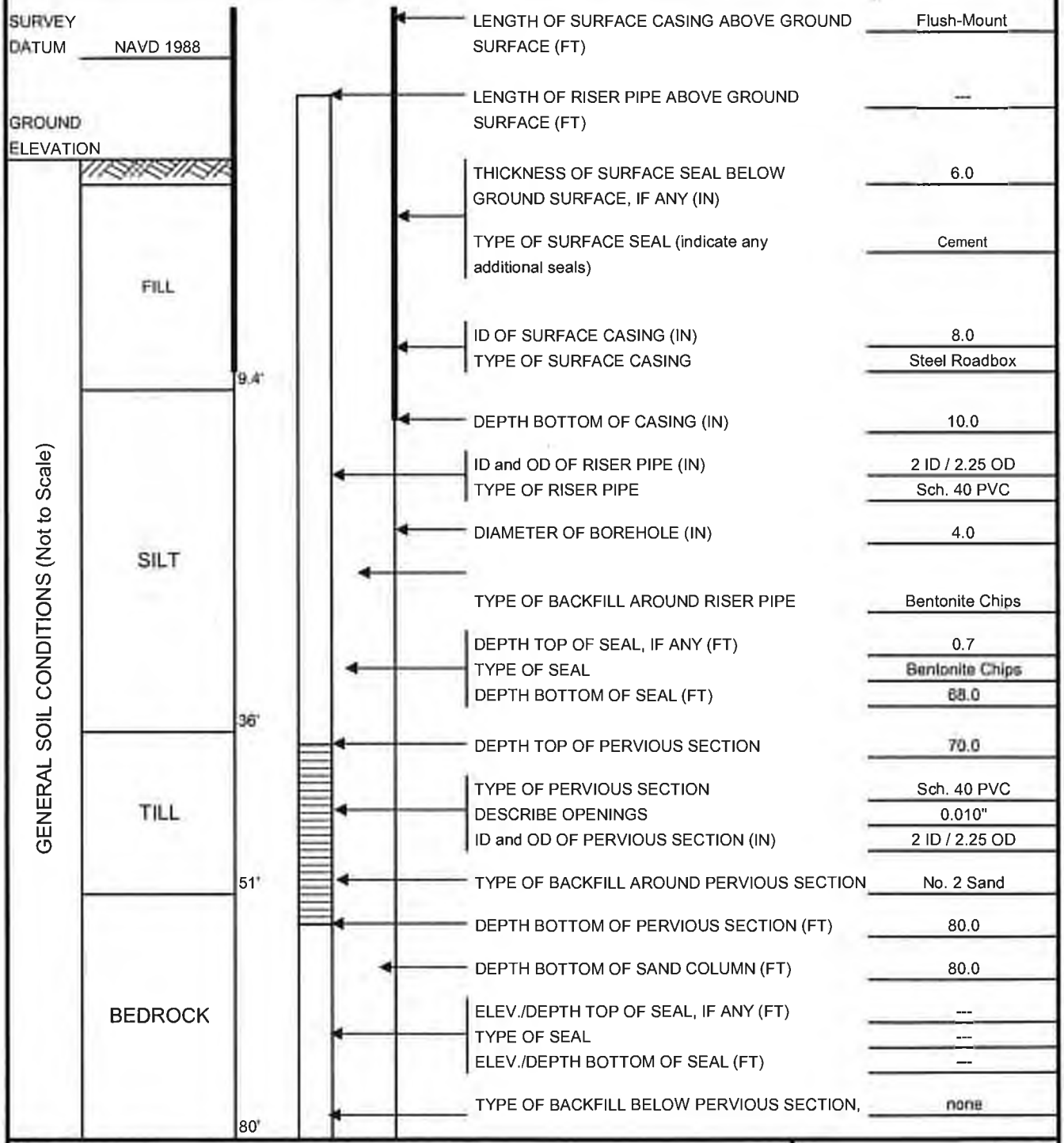
ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW118D

Project: 50 Tufts Street
Location: Somerville, MA
Client: UniFirst Corporation
Contractor: Geosearch
Driller: Patrick Hienz
Inspected by: Heather Ballantyne
Date Started: 7/2/07
Checked by:
Date Completed: 7/2/07

PG. 1 OF 1
Boring No.: MW118D
Location: Cobble Hill Apts. Washington St.
Project No.: 045162


SURVEY DATUM NAVD 1988
GROUND ELEVATION
FILL
9.4'
SILT
36'
TILL
51'
BEDROCK
80'
GENERAL SOIL CONDITIONS (Not to Scale)
LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT) Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT) ---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN) 6.0
TYPE OF SURFACE SEAL (indicate any additional seals) Cement
ID OF SURFACE CASING (IN) 8.0
TYPE OF SURFACE CASING Steel Roadbox
DEPTH BOTTOM OF CASING (IN) 10.0
ID and OD OF RISER PIPE (IN) 2 ID / 2.25 OD
TYPE OF RISER PIPE Sch. 40 PVC
DIAMETER OF BOREHOLE (IN) 4.0
TYPE OF BACKFILL AROUND RISER PIPE Bentonite Chips
DEPTH TOP OF SEAL, IF ANY (FT) 0.7
TYPE OF SEAL Bentonite Chips
DEPTH BOTTOM OF SEAL (FT) 68.0
DEPTH TOP OF PERVIOUS SECTION 70.0
TYPE OF PERVIOUS SECTION Sch. 40 PVC
DESCRIBE OPENINGS 0.010"
ID and OD OF PERVIOUS SECTION (IN) 2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT) 80.0
DEPTH BOTTOM OF SAND COLUMN (FT) 80.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT) ---
TYPE OF SEAL ---
ELEV./DEPTH BOTTOM OF SEAL (FT) ---
TYPE OF BACKFILL BELOW PERVIOUS SECTION, none

NOTES: Boring drilled with 4.5" hollow stem augers to 14', 6" casing from 14 to 21', and 5" casing from 21 to 51'. Permanent 4" casing seated in bedrock from 51 to 54' and grouted from 1 to 54'.

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400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG

PAGE 1 of 1

MW119S

DRILLING METHOD: HSA
GROUND SURFACE ELEVATION (FT): 12.1
NORTHING: 2964850.33 **EASTING:** 768053.28
DRILLED BY: Geosearch J. Emma
LOGGED BY: S. Slater

LOCATION: Soccer Field, Capuano School
TOTAL DEPTH (FT): 20'
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 8/8/07 - 8/8/07

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0		NA	NA	NM	NM		Refer to boring log for MW119T for stratigraphy from 0 to 20 feet.
2							
4							
6							
8							
10							
12							
14							
16							
18							
20							

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
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(ppm) = PARTS PER MILLION
IN. = INCHES
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Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Boring drilled with Hollow Stem Augers to 20'. Installed a soil gas monitoring point.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

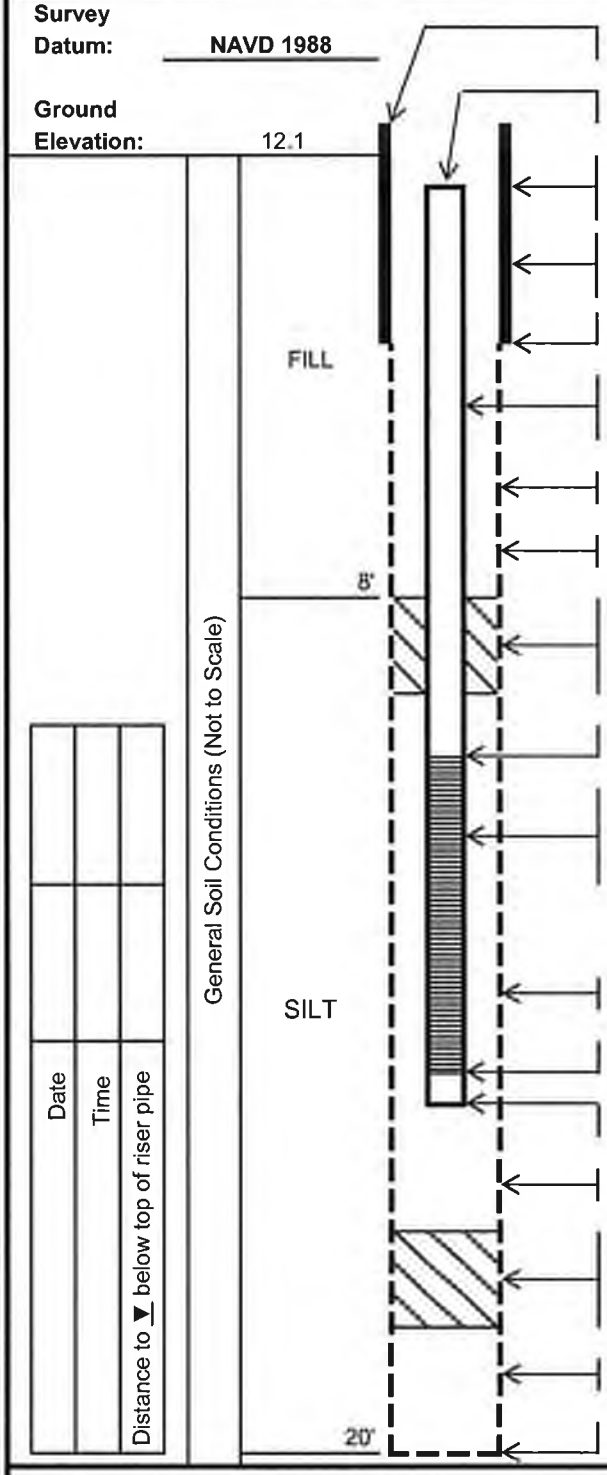
Groundwater Well Installation Log

MW119S

Project	Tufts Street	**GEI Proj. No.**	045162
City / Town	Somerville, MA	**Location**	Soccer Field,
Client	UniFirst		Capuano School
Contractor	Geosearch		
Driller	J. Emma **GEI Rep.** S. Slater	**Install Date**	8/8/2007

Survey Datum: NAVD 1988

Ground Elevation: 12.1



Length of Surface Casing above Ground	Flush-mount
Dist. Top of Surf. Casing to Top of Riser Pipe	---
Type and Thickness of Seal around Surface Casing	Cement
ID of Surface Casing	8"
Type of Surface Casing	Steel Roadbox
Depth Bottom of Surface Casing	1'
ID and OD of Riser Pipe	2" ID/ 2.25" OD
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	Grout
Diameter of Borehole	6"
Depth Top of Seal	1'
Type of Seal	Bentonite
Depth Bottom of Seal	3'
Depth Top of Screened Section	5'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010"
ID and OD of Screened Section	2" ID/2.25" OD
Type of Filter Material	No. 2 Sand
Depth Bottom of Screened Section	20'
Depth Bottom of Silt Trap	20'
Depth Bottom of Filter Material	20'
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	none
Bottom of Borehole	20'

Notes: Boring drilled with 6" hollow stem augers.

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400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 3
MW119T

DRILLING METHOD: HSA/Drive and Wash
GROUND SURFACE ELEVATION (FT): 12.1
NORTHING: 2964852.29 **EASTING:** 768055.42
DRILLED BY: Geosearch J. Emma
LOGGED BY: S. Slater

LOCATION: Soccer Field, Capuano School
TOTAL DEPTH (FT): 48.5
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 8/7/07 - 8/8/07

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0	S1	24	18	2 4 22 24	0.3		S1 (0-7"): NARROWLY GRADED SAND (SP); ~90% fine sand, ~5% non-plastic fines, ~5% gravel (up to 1.5" in diameter), brown, FILL. S1 (7-16"): WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, ~20% gravel (up to 1" in diameter), ~5% non-plastic fines, trace brick and cinders, brown to black, FILL.
2	S2	24	17	7 10 7 9	0		S1 (16-18"): Similar to S1 (7-16") but light brown, FILL. S2 (0-5"): similar to S1 (7-18")
4	S3	24	6	4 3 2 2	0.1		S2 (5-17"): SILTY SAND WITH GRAVEL (SM); ~65% medium sand, ~20% non-plastic fines, ~15% gravel (up to 1" in diameter), reddish brown, FILL.
6	S4	24	6	4 8 13 17	0.1		S3: WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, ~15% gravel (up to 1" in diameter), trace brick, brown, FILL. S4 (0-3"): SILT WITH SAND AND GRAVEL (ML); ~65% non-plastic fines, ~20% fine to coarse sand, ~15% gravel (up to 0.5" in diameter), light brown, FILL.
8	S5	24	23	2 9 10 15	0.1		S4 (3-6"): WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, ~10% gravel (up to 0.5" in diameter), ~10% non-plastic fines, brown, FILL. S5 (0-3"): Similar to S4 (3-6").
10	S6	24	24	1 2 5 5	0		S5 (3-23"): SILT (ML); ~85% non-plastic fines, ~10% fine sand, < 5% gravel (up to 0.25" in diameter), light brown, SILT. S6: SILT (ML); ~95% low plasticity fines, ~5% fine sand, gray, SILT.
12	S7	24	24	4 5 5 5	0		S7: Similar to S6.
14	S8	24	24	WOH for 20" 1	0		S8: Similar to S7 and above.
16	S9	24	24	NM	0		S9: Similar to S8 and above.
18	S10	24	24	WOH for 18" 2	0		S10: Similar to S9 and above.

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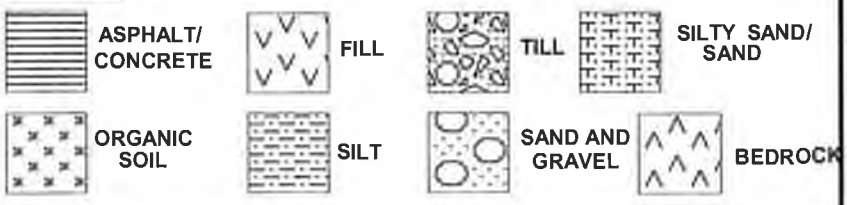
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Boring drilled with Hollow Stem Auger to 14' and casing from 14' to 48.5'. Environmental samples taken at 6-8', 12-14', 20-22' and 46-48'.

LITHOLOGY:



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GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 2 of 3
MW119T

DRILLING METHOD: HSA/Drive and Wash
GROUND SURFACE ELEVATION (FT): 12.1
NORTHING: 2964852.29 **EASTING:** 768055.42
DRILLED BY: Geosearch J. Emma
LOGGED BY: S. Slater

LOCATION: Soccer Field, Capuano School
TOTAL DEPTH (FT): 48.5
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83)
DATE START / END: 8/7/07 - 8/8/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
20	S11	24	24	NM	0		S11: Similar to S10 and above.
22	S12	24	24	NM	0		S12: Similar to S11 and above, but 4" lens of fine gray sand.
24	S13	24	24	WOH 3 3 3	0		S13: SILT WITH SAND (ML); ~70% non-plastic fines, ~30% fine sand, gray, SILT.
26	S14	24	24	NM	0		S14: SILT (ML); ~95% low plasticity fines, ~5% fine sand, gray, SILT.
28	S15	24	24	WOH for 18" 5	0		S15: Similar to S14.
30	S16	24	24	NM	0		S16: Similar to S15 and above.
32	S17	24	24	WOH for 12" 3 3	0		S17: Similar to S16 and above.
34	S18	24	23	WOH for 24"	0		S18: Similar to S17 and above.
36	S19	24	24	1 4 4 4	0		S19: Similar to S18 and above.
38	S20	24	24	1 2 8 8	0		S20: Similar to S19, but large angular cobbles up to 1.5" in diameter throughout.

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FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN WITH 140 LB. SAFETY HAMMER FALLING 30 IN TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

Boring drilled with Hollow Stem Auger to 14' and casing from 14' to 48.5'. Environmental samples taken at 6-8', 12-14', 20-22' and 46-48'.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

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400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 3 of 3
MW119T

DRILLING METHOD: HSA/Drive and Wash
GROUND SURFACE ELEVATION (FT): 12.1
NORTHING: 2964852.29 **EASTING:** 768055.42
DRILLED BY: Geosearch J. Emma
LOGGED BY: S. Slater

LOCATION: Soccer Field, Capuano School
TOTAL DEPTH (FT): 48.5
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83)
DATE START / END: 8/7/07 - 8/8/07

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
40	S21	24	24	3 4 5 5	0		S21: Similar to S20.
42	S22	24	24	9 30 31 27	0		S22 (0-20"): SANDY SILT (ML); ~50% non-plastic fines, ~50% fine sand, gray, SILT.
44	S23	24	20	5 6 17 12	0		S22 (20-24"): WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~50% gravel (up to 1.5" in diameter), ~40% fine to coarse sand, ~10% low plasticity fines, brownish-gray, TILL. S23: SILTY SAND WITH GRAVEL (SM); ~55% fine to coarse sand, ~30% gravel (up to 0.5" in diameter), ~15% non-plastic fines, gray, TILL.
46	S24	24	24	12 26 20 39	0		S24 (0-15"): BLOW-IN. S24 (15-24"): WIDELY GRADED GRAVEL WITH SILT (GW-GM); ~90% angular gravel (up to 3" in diameter), ~10% non-plastic fines, gray, TILL. Refusal at 48.5 feet.
48							

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FT. = FEET
Vac. Ex = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2 0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Boring drilled with Hollow Stem Auger to 14' and casing from 14' to 48 5'. Environmental samples taken at 6-8', 12-14', 20-22' and 46-48'.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

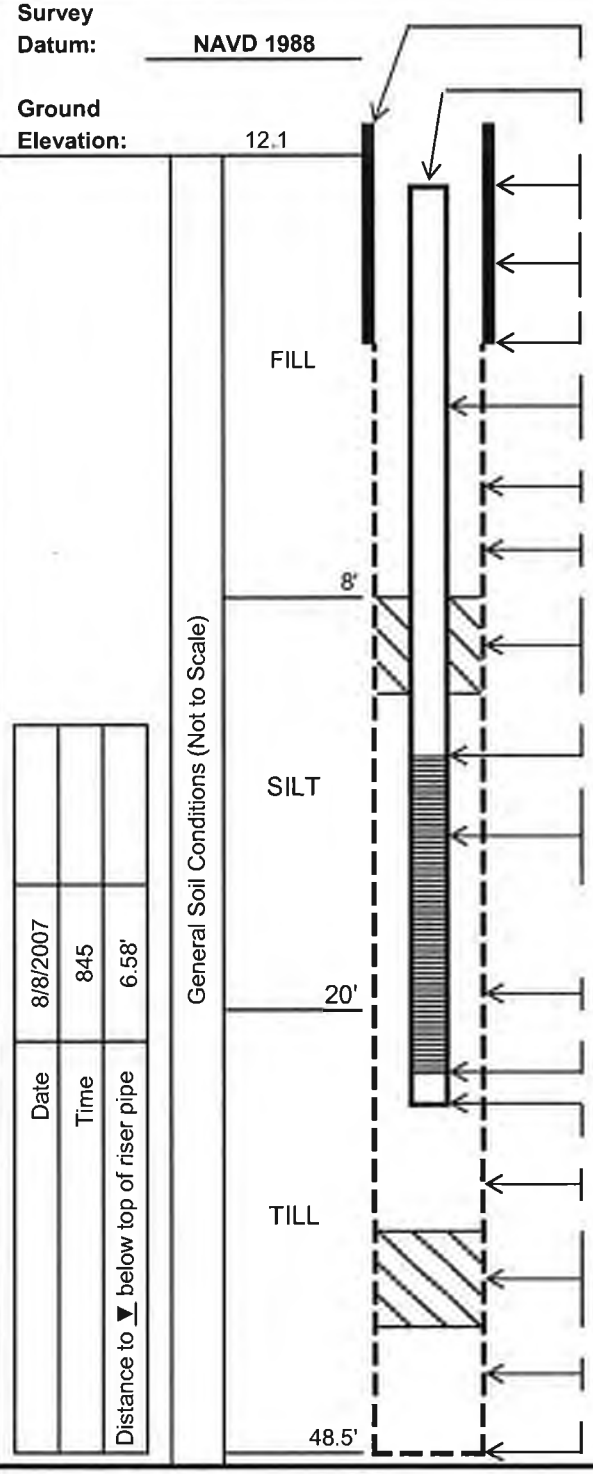
Groundwater Well Installation Log

MW119T

Project	Tufts Street	**GEI Proj. No.**	045162
City / Town	Somerville, MA	**Location**	Soccer Field, Capuano School
Client	UniFirst		
Contractor	Geosearch		
Driller	J. Emma	**GEI Rep.** S. Slater	**Install Date** 8/7/07 - 8/8/07

Survey Datum: NAVD 1988

Ground Elevation: 12.1



Length of Surface Casing above Ground	Flush-mount
Dist. Top of Surf. Casing to Top of Riser Pipe	---
Type and Thickness of Seal around Surface Casing	Cement
ID of Surface Casing	8"
Type of Surface Casing	Steel Roadbox
Depth Bottom of Surface Casing	1'
ID and OD of Riser Pipe	2" ID/ 2.25" OD
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	Grout
Diameter of Borehole	6"(0-14'), 5"(14-48.5')
Depth Top of Seal	37'
Type of Seal	Bentonite
Depth Bottom of Seal	40'
Depth Top of Screened Section	42'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010"
ID and OD of Screened Section	2" ID/2.25" OD
Type of Filter Material	No. 2 Sand
Depth Bottom of Screened Section	47'
Depth Bottom of Silt Trap	47'
Depth Bottom of Filter Material	47'
Depth Top of Seal	47'
Type of Seal	Bentonite
Depth Bottom of Seal	48.5'
Type of Backfill below Filter Material	---
Bottom of Borehole	48.5'

Date	Time	Distance to ▼ below top of riser pipe
8/8/2007	845	6.58'

Notes: Boring drilled with 6" hollow stem augers to 14', and 5" casing from 14 - 48.5'.

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400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW120S

DRILLING METHOD: HSA/Drive & Wash
GROUND SURFACE ELEVATION (FT): 13.1
NORTHING: 2964899.29 **EASTING:** 767906.07
DRILLED BY: Geosearch J. Emma
LOGGED BY: S. Slater

LOCATION: Soccer Field, Capuano School
TOTAL DEPTH (FT): 20
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 8/8/07 - 8/8/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0	S1	24	13	4 4 7 7	0.0		S1 (0-7"): WIDELY GRADED SAND (SW); ~95% sand, ~5% gravel (up to 0.5" in diameter), small roots, brown, TOPSOIL.
2	S2	24	15	4 6 8 7	0.0		S1 (7-13"): WIDELY GRADED SAND (SW); ~90% sand, ~5% gravel (up to 0.5" in diameter), ~5% non-plastic fines, light brown, FILL.
							S2 (0-6"): Similar to S1 (7-13") but with trace coal and coal ash.
4	S3	24	13	3 3 2 3	0.0		S2 (6-15"): WIDELY GRADED SAND WITH SILT (SW-SM); ~80% sand, ~10% non-plastic fines, ~10% gravel (up to 1" in diameter), thin ash layer, grayish brown, FILL.
							S3 (0-9"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~65% sand, ~25% gravel (up to 1" in diameter), ~10% non-plastic fines, light brown, FILL.
6	S4	24	17	1 2 1 2	0.0		S3 (9-13"): SILTY SAND WITH GRAVEL (SM); ~60% fine sand, ~30% non-plastic fines, ~10% gravel (up to 1.5" in diameter), olive brown, FILL.
							S4 (0-12"): SILTY SAND WITH GRAVEL (SM); ~75% fine to coarse sand, ~15% non-plastic fines, ~10% gravel (up to 1.5" in diameter), brown, FILL.
8	S5	24	8	WOH for 24"	0.0		S4 (12-17"): SILTY SAND WITH GRAVEL (SM); ~55% fine to coarse sand, ~30% low plasticity fines, ~15% gravel (up to 1.5" in diameter), gray, FILL.
10	S6	24	10	WOH for 18" 1	0.0		S5: SANDY SILT WITH GRAVEL (ML); ~50% non-plastic fines, ~30% fine to coarse sand, ~20% gravel (up to 1" in diameter), 2" lens of sand, gray. FILL.
							S6: SILT (ML); ~95% low plasticity fines, ~5% fine sand, gray, SILT.
12	S7	24	24	4 3 2 3	0.0		S7: Similar to S6.
14	S8	24	24	2 3 3 2	0.0		S8: Similar to S7 and above.
16	S9	24	24	3 3 3 3	0.0		S9: Similar to S8 and above.
18	S10	24	19	2 2 2 1	0.0		S10: SILT WITH SAND (ML); ~70% low plasticity fines, ~30% fine sand, gray, SILT.
20							Bottom of boring at 20', no refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN WITH 140 LB SAFETY HAMMER FALLING 30 IN TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Boring drilled with Hollow Stem Augers to 13' and 5" casing from 13' to 20'. Monitoring well installed with soil gas sampling port. Environmental samples taken from 4-6' and 12-14'.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

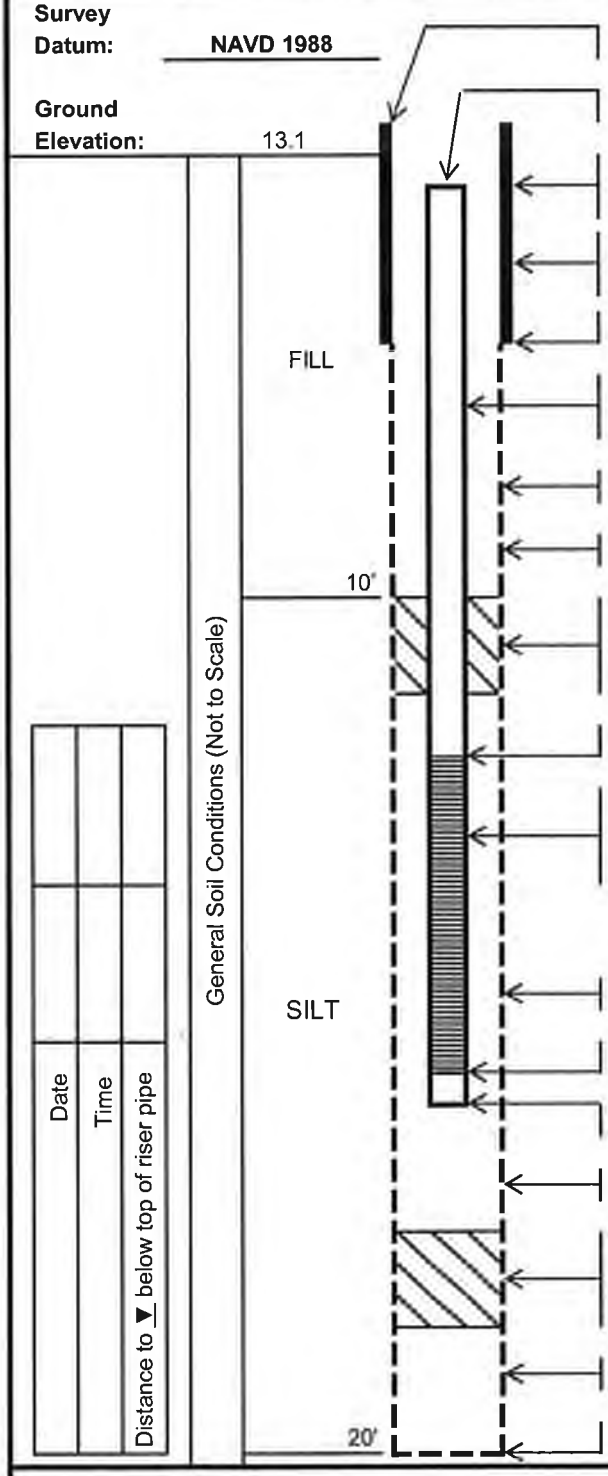
Groundwater Well Installation Log

MW120S

Project	Tufts Street	**GEI Proj. No.**	045162
City / Town	Somerville, MA	**Location**	Soccer Field, Capuano School
Client	UniFirst		
Contractor	Geosearch		
Driller	J. Emma	**GEI Rep.** S. Slater	**Install Date** 8/8/2007

Survey Datum: NAVD 1988

Ground Elevation: 13.1



Length of Surface Casing above Ground	Flush-mount
Dist. Top of Surf. Casing to Top of Riser Pipe	---
Type and Thickness of Seal around Surface Casing	Cement
ID of Surface Casing	8"
Type of Surface Casing	Steel Roadbox
Depth Bottom of Surface Casing	1'
ID and OD of Riser Pipe	2" ID/ 2.25" OD
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	Grout
Diameter of Borehole	6"
Depth Top of Seal	1'
Type of Seal	Bentonite
Depth Bottom of Seal	3'
Depth Top of Screened Section	5'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010"
ID and OD of Screened Section	2" ID/2.25" OD
Type of Filter Material	No. 2 Sand
Depth Bottom of Screened Section	20'
Depth Bottom of Silt Trap	20'
Depth Bottom of Filter Material	20'
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	none
Bottom of Borehole	20'

Notes: Boring drilled with 6" hollow stem augers.

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Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 2
MW120D

DRILLING METHOD: HSA/Drive & Wash/ODEX
GROUND SURFACE ELEVATION (FT): 12.9
NORTHING: 2964899.29 EASTING: 767903.50
DRILLED BY: Geosearch J. Emma
LOGGED BY: S. Slater

LOCATION: Soccer Field, Capuano school
TOTAL DEPTH (FT): 38
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 8/8/07 - 8/9/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0		NM	NM	NM	NM		Refer to the boring log for MW120S for stratigraphy from 0 to 19 feet.
2							
4							
6							
8							
10							
12							
14							
16							
18							
	S11	24	17	1 1	0.0		S11: SILT (ML); ~95% low plasticity fines, ~5% fine sand, gray, SILT.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT = FEET
Vac Ex = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2 0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Boring drilled with Hollow Stem Augers to 13 feet, 5" casing from 13 to 23 feet and air hammer from 23 to 38 feet.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GEI Consultants

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 2 of 2
MW120D

DRILLING METHOD: HSA/Drive & Wash/ODEX
GROUND SURFACE ELEVATION (FT): 12.9
NORTHING: 2964899.29 EASTING: 767903.50
DRILLED BY: Geosearch J. Emma
LOGGED BY: S. Slater

LOCATION: Soccer Field, Capuano school
TOTAL DEPTH (FT): 38
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83)
DATE START / END: 8/8/07 - 8/9/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
20				1 1			
	S12	24	24	2 3 3 2	0.0		S12: Similar to S11.
22							
	C1	NM	NM	NM	NM		C1: BEDROCK; slaty cleavage, dense, gray, ARGILLITE (Cambridge Argillite).
24							
26							
28							
30							
32							
34							
36							
38							Bottom of boring at 38 feet, no refusal.

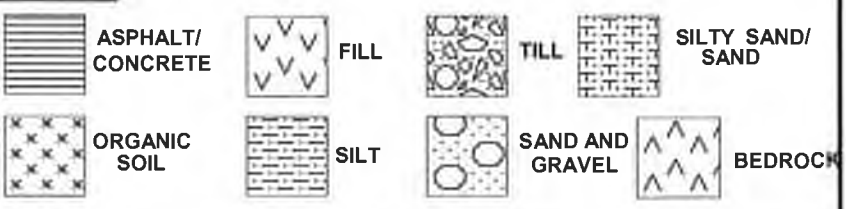
ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

Boring drilled with Hollow Stem Augers to 13 feet, 5" casing from 13 to 23 feet and air hammer from 23 to 38 feet.

LITHOLOGY:



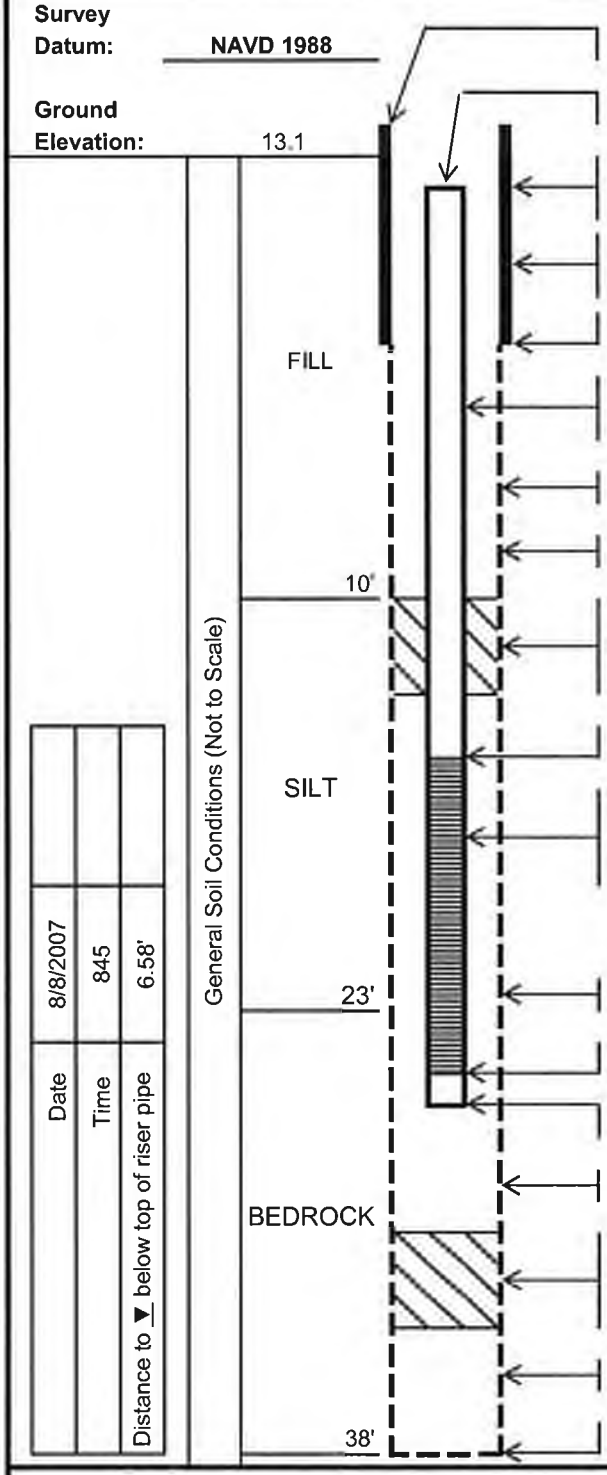
Groundwater Well Installation Log

MW120D

Project	Tufts Street	**GEI Proj. No.**	045162
City / Town	Somerville, MA	**Location**	Soccer Field, Capuano School
Client	UniFirst		
Contractor	Geosearch		
Driller	J. Emma	**GEI Rep.** S. Slater	**Install Date** 8/9/2007

Survey Datum: NAVD 1988

Ground Elevation: 13.1



General Soil Conditions (Not to Scale)

Date	Time	Distance to ▼ below top of riser pipe
8/8/2007	845	6.58'

Length of Surface Casing above Ground	Flush-mount
Dist. Top of Surf. Casing to Top of Riser Pipe	---
Type and Thickness of Seal around Surface Casing	Cement
ID of Surface Casing	8"
Type of Surface Casing	Steel Roadbox
Depth Bottom of Surface Casing	1'
ID and OD of Riser Pipe	2" ID/ 2.25" OD
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	Grout
Diameter of Borehole	5"
Depth Top of Seal	23'
Type of Seal	Bentonite
Depth Bottom of Seal	26'
Depth Top of Screened Section	28'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010"
ID and OD of Screened Section	2" ID/2.25" OD
Type of Filter Material	No. 2 Sand
Depth Bottom of Screened Section	38'
Depth Bottom of Silt Trap	38'
Depth Bottom of Filter Material	38'
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	none
Bottom of Borehole	38'

Notes: Boring drilled with 5" casing.

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GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 3
MW121D

DRILLING METHOD: HSA/Drive and Wash/Rock Core
GROUND SURFACE ELEVATION (FT): 13.0
NORTHING: 2964515.96 **EASTING:** 768292.52
DRILLED BY: Geosearch Mike DeAmicas
LOGGED BY: H.Ballantyne

LOCATION: in front of 12 Franklin Avenue
TOTAL DEPTH (FT): 48
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 10/8/07 - 10/12/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0							(0-8"): ASPHALT.
2	Vac1	27	27	NM	10.6		Vac1: SANDY SILT WITH GRAVEL (ML); ~65% non-plastic fines, ~25% fine to coarse sand, ~10% fine to coarse angular to sub-angular gravel (up to 2" diameter), most, moderately dense, brown, FILL.
4	Vac2	24	24	NM	NM		Vac2: Similar to Vac1, but ~20% gravel and cobbles (up to 12").
6	Vac3	24	24	NM	2.1		Vac3: SILT WITH SAND (ML); ~80% non-plastic fines, ~20% fine to medium sand, dry, dense, olive with brown mottling, unknown odor (possibly organic), SILT.
8	S1	24	24	2 5 5 7	12.1		S1: SILT (ML); ~98% non-plastic fines, ~2% fine sand, no to low dilatency, dry, trace organics, olive with brown mottling, gray to black sand lens from 20 to 22", slight sulfur odor, SILT.
10	S2	24	18	5 5 4 5	10.1		S2: Similar to S1.
12	S3	24	15	3 5 5 8	8.7		S3: Similar to S2 and above.
14	S4	24	22	6 7 8 6	S4(0-9")= 4.1 S4(9-22")= 1.8		S4 (0-9"): Similar to S3 and above. S4 (9-22"): SANDY SILT (ML); ~85% non-plastic fines, ~10% fine to medium sand, ~ <5% fine gravel (up to 0.5" diameter), olive to brown, SILT.
16	S5	24	16	9 9 7 9	S5(0-7")= 4.8 S5(7-16")= 1.6		S5 (0-7"): SANDY SILT WITH GRAVEL (ML); ~60% non-plastic fines, ~25% fine to medium sand, ~5% fine gravel (up to 0.25" diameter), wet, loose, olive to brown, SILT. S5 (7-16"): SILT (ML); ~90% non-plastic fines, ~5% fine to medium sand, ~5% fine gravel (up to 0.25"

ABBREVIATIONS:

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NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN TO ORIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Boring was drilled with 4.5" hollow stem augers from 0 to 12 feet, 5" casing from 12 to 28 feet. Permenant 4" casing was telescoped through the 5" casing and seated in bedrock from 28 to 32 feet. Permenant casing was grouted in place prior to rock coring. Rock core was HQ type (2.5" diameter). Rock core drilled from 32 to 39 feet, and rock was drilled using a 4" rollerbit from 39 to 48 feet. Environmental samples taken at 1-3' and 12-13'. PTS samples at 9-11', 21-23' and 32-36'.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

GEI Consultants

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 2 of 3
MW121D

DRILLING METHOD: HSA/Drive and Wash/Rock Core
GROUND SURFACE ELEVATION (FT): 13.0
NORTHING: 2964515.96 **EASTING:** 768292.52
DRILLED BY: Geosearch Mike DeAmicas
LOGGED BY: H.Ballantyne

LOCATION: in front of 12 Franklin Avenue
TOTAL DEPTH (FT): 48
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83)
DATE START / END: 10/8/07 - 10/12/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
18	S6	24	13	2 3 2 5	S6(0-7")= 13.1 S6(7-13")= 7.1		diameter), wet, olive with brown mottling, SILT. S6 (0-7"): SILT WITH GRAVEL (ML); ~85% non-plastic fines, ~15% fine gravel (up to 0.5" diameter), wet, loose, olive to gray, SILT. S6 (7-13"): SILT (ML); ~95% non-plastic fines, ~5% fine sand, homogeneous, no to low dilatency, wet, loose, olive to gray, SILT.
20	S7	24	6	3 4 5 4	1.3		S7: Similar to S6 (7-13").
22	S8	24	18	5 4 7 4	0.2		S8: SILT (ML); ~95% non-plastic fines, ~5% fine sand, trace fine gravel (up to 0.5" diameter), no to low dilatency, wet, loose, gray, SILT.
24	S9	24	0	5 5 7 8	NM		S9: No Recovery.
26	S10	24	24	8 31 42 17	S10(0-22")= 15.2 S10(22-24")= 13.1		S10 (0-22"): SILT (ML); ~100% non-plastic fines, <5% fine sand, homogeneous, low dilatency, wet, gray, SILT.
28	S11	18	1	3 100/6"	15.4		S10 (22-24"): SILTY GRAVEL WITH SAND (GM); ~45% coarse gravel (up to 1.5"-diameter), ~30% non-plastic fines, ~25% fine to coarse sand, wet, dense, olive to brown, gravel appears to be largely argillite in composition, TILL. S11: WIDELY GRADED GRAVEL (GW); ~90% fine to coarse angular gravel (up to 1.5" diameter), ~10% coarse sand, <5% fines, gravel appears to be argillite in composition, WEATHERED BEDROCK.
30		24	0	NM	NM		Drilled with roller bit from 29 to 32 feet. No sample collected. Observed gray argillite chips in wash water.
32	C1	48	39	3:56 3:37	0.1		C1: BEDROCK, dense, gray, moderately fractured, slightly to moderately weathered along fracture planes (orange staining, and recrystallization apparent), bottom 6" of run is highly fractured with no pieces > 4", CAMBRIDGE ARGILLITE.

ABBREVIATIONS:

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(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Boring was drilled with 4.5" hollow stem augers from 0 to 12 feet, 5" casing from 12 to 28 feet. Permenant 4" casing was telescoped through the 5" casing and seated in bedrock from 28 to 32 feet. Permenant casing was grouted in place prior to rock coring. Rock core was HQ type (2.5" diameter). Rock core drilled from 32 to 39 feet, and rock was drilled using a 4" rollerbit from 39 to 48 feet. Environmental samples taken at 1-3' and 12-13'. PTS samples at 9-11', 21-23' and 32-36'.

LITHOLOGY:

ASPHALT/ CONCRETE | FILL | TILL | SILTY SAND/ SAND
ORGANIC SOIL | SILT | SAND AND GRAVEL | BEDROCK

GEI Consultants

GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 3 of 3
MW121D

DRILLING METHOD: HSA/Drive and Wash/Rock Core
GROUND SURFACE ELEVATION (FT): 13.0
NORTHING: 2964515.96 EASTING: 768292.52
DRILLED BY: Geosearch Mike DeAmicas
LOGGED BY: H.Ballantyne

LOCATION: in front of 12 Franklin Avenue
TOTAL DEPTH (FT): 48
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83)
DATE START / END: 10/8/07 - 10/12/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
34				5:48 6:05			
36	C2	24	24	7:32 7:42	0.0		C2: Similar to C1, but highly fractured , slight to moderate weathering along natural fracture planes (orange staining, recrystallization apparent), CAMBRIDGE ARGILLITE.
38	C3	36	12	9:23 9:49	0.0		C3: Similar to C2.
		108	0	NM	NM		Attempted to core; however, core barrel repeatedly jammed with rock fragments. Drilled with rolller bit from 38 to 48 fee. No sample collected.
40							
42							
44							
46							
48							Bottom of Boring at 48 feet, no refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Boring was drilled with 4.5" hollow stem augers from 0 to 12 feet, 5" casing from 12 to 28 feet. Permenant 4" casing was telescoped through the 5" casing and seated in bedrock from 28 to 32 feet. Permenant casing was grouted in place prior to rock coring. Rock core was HQ type (2.5" diameter). Rock core drilled from 32 to 39 feet, and rock was drilled using a 4" rollerbit from 39 to 48 feet. Environmental samples taken at 1-3' and 12-13'. PTS samples at 9-11', 21-23' and 32-36'.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

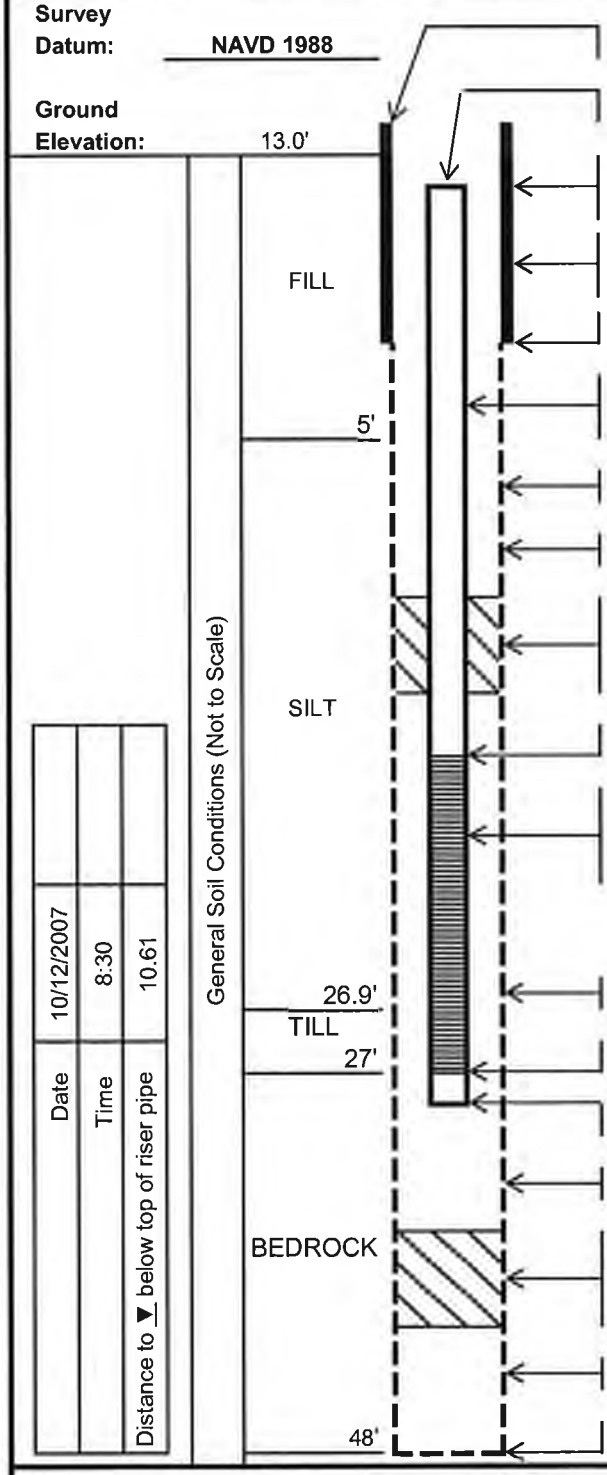
Groundwater Well Installation Log

MW121D

Project	Tufts Street	**GEI Proj. No.**	045162
City / Town	Somerville, MA	**Location**	In front of 12 Franklin Avenue
Client	UniFirst		
Contractor	Geosearch		
Driller	M. DeAmicas **GEI Rep.** H.Ballantyne	**Install Date**	10/12/2007

Survey Datum: NAVD 1988

Ground Elevation: 13.0'



Length of Surface Casing above Ground	Flush-mount
Dist. Top of Surf. Casing to Top of Riser Pipe	---
Type and Thickness of Seal around Surface Casing	Cement
ID of Surface Casing	8"
Type of Surface Casing	Steel Roadbox
Depth Bottom of Surface Casing	10"
ID and OD of Riser Pipe	2" ID/ 2.25" OD
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	Grout
Diameter of Borehole	6" (0-13'), 5" (13-28'), 4" (28-48')
Depth Top of Seal	28.1
Type of Seal	Bentonite Chips
Depth Bottom of Seal	30.1
Depth Top of Screened Section	32.1'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010"
ID and OD of Screened Section	2" ID/2.25" OD
Type of Filter Material	No. 2 Sand
Depth Bottom of Screened Section	47.1'
Depth Bottom of Silt Trap	47.1'
Depth Bottom of Filter Material	47.1'
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	collapse
Bottom of Borehole	48'

Notes: Boring drilled with 6" hollow stem augers from 0 to 12 feet, 5" casing from 12 to 28 feet. Permenant 4" casing was telescoped through the 5" casing and seated in bedrock from 28 to 32 feet. Permenant casing was grouted in place prior to rock coring. Rock core was HQ type (2.5" diameter). Roc core drilled from 32 to 39 feet, and rock was drilled using a 4" rollerbit from 39 to 48 feet.

GEI Consultants

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GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW121S

DRILLING METHOD: Wireline Rock Core
GROUND SURFACE ELEVATION (FT): 13.1
NORTHING: 2964510.14 EASTING: 768292.50
DRILLED BY: Geosearch Mike DeAmicas
LOGGED BY: H.Ballantyne

LOCATION: Franklin Avenue
TOTAL DEPTH (FT): 20
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 10/10/07 - 10/10/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0		NA	NA	NM	NM		Refer to boring log for MW121D for stratigraphy.
2							
4							
6							
8							
10							
12							
14							
16							
18							
20							Bottom of boirng at 20 feet, no refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN TO DRIVE A 2 0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Soil vapor sampling port installed.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

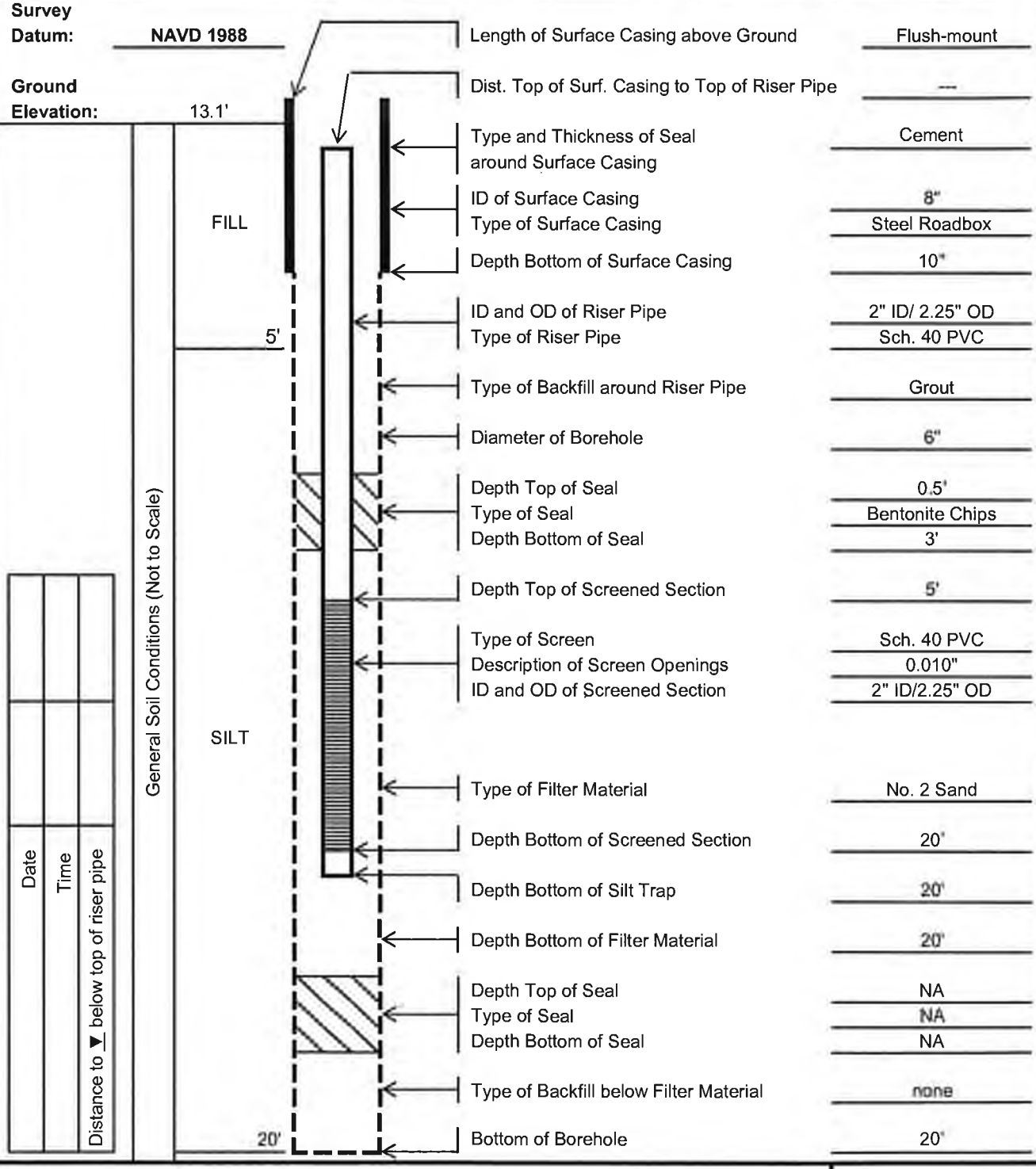
Groundwater Well Installation Log

MW121S

Project	Tufts Street	**GEI Proj. No.**	045162
City / Town	Somerville, MA	**Location**	In front of 12 Franklin Avenue
Client	UniFirst		
Contractor	Geosearch		
Driller	M. DeAmicas **GEI Rep.** H.Ballantyne	**Install Date**	10/10/2007

Survey Datum: NAVD 1988

Ground Elevation: 13.1'



Length of Surface Casing above Ground	Flush-mount
Dist. Top of Surf. Casing to Top of Riser Pipe	---
Type and Thickness of Seal around Surface Casing	Cement
ID of Surface Casing	8"
Type of Surface Casing	Steel Roadbox
Depth Bottom of Surface Casing	10"
ID and OD of Riser Pipe	2" ID/ 2.25" OD
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	Grout
Diameter of Borehole	6"
Depth Top of Seal	0.5'
Type of Seal	Bentonite Chips
Depth Bottom of Seal	3'
Depth Top of Screened Section	5'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010"
ID and OD of Screened Section	2" ID/2.25" OD
Type of Filter Material	No. 2 Sand
Depth Bottom of Screened Section	20'
Depth Bottom of Silt Trap	20'
Depth Bottom of Filter Material	20'
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	none
Bottom of Borehole	20'

Notes: Boring drilled with 4.5" hollow stem augers. Soil vapor sampling port installed.

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GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW122

DRILLING METHOD: Vac. Ex./Drive & Wash
GROUND SURFACE ELEVATION (FT): 16.77
NORTHING: 2964415.73 **EASTING:** 767977.46
DRILLED BY: GeoLogic M. Cochrane
LOGGED BY: S. Slater

LOCATION: Corner of Franklin St. and Hadley Ct.
TOTAL DEPTH (FT): 16
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 1/23/08 - 1/24/08

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0	S1			Vac. Ex.	0.7		S1 Vac. Ex. SILTY SAND WITH GRAVEL (SM) ~70% course sand, ~15% gravel, max. size 2", ~15% non-plastic fines, organic material in silt, cinders, light brown, dry, FILL.
2							
4				Vac. Ex.			
6	S2	24	21	9 15 15 12	1.9		S2(0-10") SILT WITH SAND (ML) ~90% non-plastic fines, ~10% fine sand, dense, olive, dry, FILL. S2(10-21") SANDY SILT (ML) ~50% non-plastic fines, ~40% fine to coarse sand, ~10% gravel, max. size 0.5", trace organics, olive, dry, FILL.
8	S3	24	17	5 5 8 9	0.0		S3 SILT WITH SAND (ML) ~85% non-plastic fines, ~10% fine sand, <5% gravel, max. size 0.25", organics, large chunk of wood ~1.5", olive, wet, SILT.
10	S4	24	20	6 8 8 11	0.0		S4 Similar to S3 with large amounts of wood.
12	S5	24	9	5 4 2 3	0.2		S5(0-6") Similar to S4. S5(6-9") SILT (ML) ~95% non-plastic fines, ~5% fine sand, gray-brown, wet, SILT.
14	S6	24	18	20 34 35 45	0.0		S6 SILT WITH SAND (ML) ~85% non-plastic fines, ~10% fine sand, <5% gravel, max. size 0.25", gray-green, wet, SILT.
16							Bottom of borehole at 16 feet. No refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN WITH 140 LB. SAFETY HAMMER FALLING 30 IN TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER.

NOTES:

Vacuum excavation on 1/23/2008 to 6 feet and backfilled with cuttings. Boring completed by driving 4" casing and rotary washing. Monitoring well with soil vapor sampling port installed. Refer to monitoring well log. Environmental samples taken from 8-10' and 14-16'.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

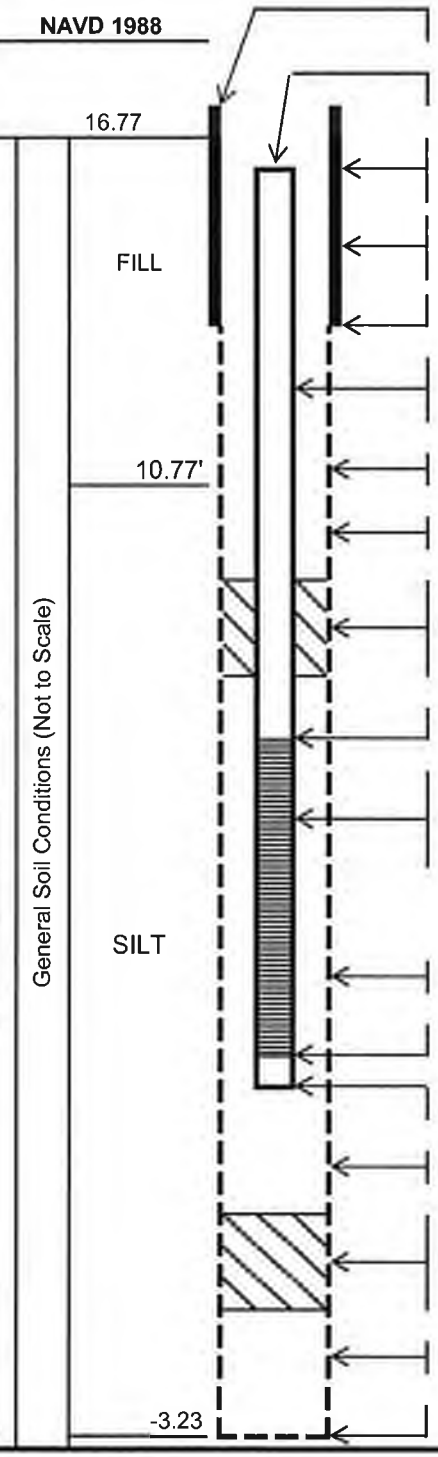
Groundwater Well Installation Log

MW122

Project	Tufts Street	**GEI Proj. No.**	045162
City / Town	Somerville, MA	**Location**	In front of 97 Franklin Street
Client	UniFirst		
Contractor	GeoLogic		
Driller	M. Cochrane **GEI Rep.** S. Slater	**Install Date**	1/24/2008

Survey Datum: NAVD 1988

Ground Elevation: 16.77



General Soil Conditions (Not to Scale)

Date	Time	Distance to ▼ below top of riser pipe
2/1/2008	10:19	12.95

Length of Surface Casing above Ground	Flush-mount
Dist. Top of Surf. Casing to Top of Riser Pipe	4.2"
Type and Thickness of Seal around Surface Casing	Cement
ID of Surface Casing	8"
Type of Surface Casing	Steel Roadbox
Depth Bottom of Surface Casing	1'
ID and OD of Riser Pipe	2" ID/ 2.25" OD
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	Type 0 Filter Sand
Diameter of Borehole	6.25"
Depth Top of Seal	0.5'
Type of Seal	Bentonite
Depth Bottom of Seal	2'
Depth Top of Screened Section	4'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010"
ID and OD of Screened Section	2" ID/2.25" OD
Type of Filter Material	Type 0 Filter Sand
Depth Bottom of Screened Section	16'
Depth Bottom of Silt Trap	16'
Depth Bottom of Filter Material	16'
Depth Top of Seal	--
Type of Seal	--
Depth Bottom of Seal	--
Type of Backfill below Filter Material	none
Bottom of Borehole	16'

Notes: Soil vapor sampling port installed.

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GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW201

DRILLING METHOD: Geoprobe
GROUND SURFACE ELEVATION (FT): 27.9
NORTHING: 2964781.83 **EASTING:** 767110.37
DRILLED BY: Geosearch R.Kaddy
LOGGED BY: H.Ballantyne

LOCATION: 60 Tufts Street
TOTAL DEPTH (FT): 21
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 7/11/07 - 7/11/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0	GP1	60	27	PUSH	GP1(14-27") 0.0		GP1 (0-2"): ASPHALT GP1 (2-14"): CONCRETE GP1 (14-27"): WIDELY GRADED SAND WITH SILT (SW-SM); ~85 % fine to coarse sand, ~10% silt, ~5% fine to coarse sub-angular to sub-rounded gravel (up to 1" diamater), dry, loose, brown, FILL.
2							
4							
6	GP2	60	39	PUSH	0.0		GP2: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% fine to coarse sand, ~15% fine to coarse angular to sub-rounded gravel (up to 1.25" diameter), trace cement, dry, loose, brown, FILL.
8							
10	GP3	60	51	PUSH	GP3(0-27") 0.0		GP3 (0-27"): Similar to GP2.
12					GP3(27-51") 0.0		GP3 (27-51"): NARROWLY GRADED SAND (SP); ~90% medium to coarse sand, ~5% silt, ~5% fine angular to sub-angular gravel (up to 0.25" diameter), wet, loose, brown, TILL.
14							
16	GP4	60	34	PUSH	GP4(0-12") 0.0 GP4(12-34") 0.0		GP4 (0-12"): Similar to GP3 (27-51"). GP4 (12-34"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% fine to coarse sand, ~40% fine to coarse sub-angular gravel (up to 1" diameter), ~10% silt, wet, dense, brown, TILL.
18							
20							Botttom of boring at 21 feet, casing refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

Boring was drilled using a Geoprobe rig. Monitoring well with soil vapor sampling port installed. Environmental samples taken at 11-13' and 15-17'.

LITHOLOGY:

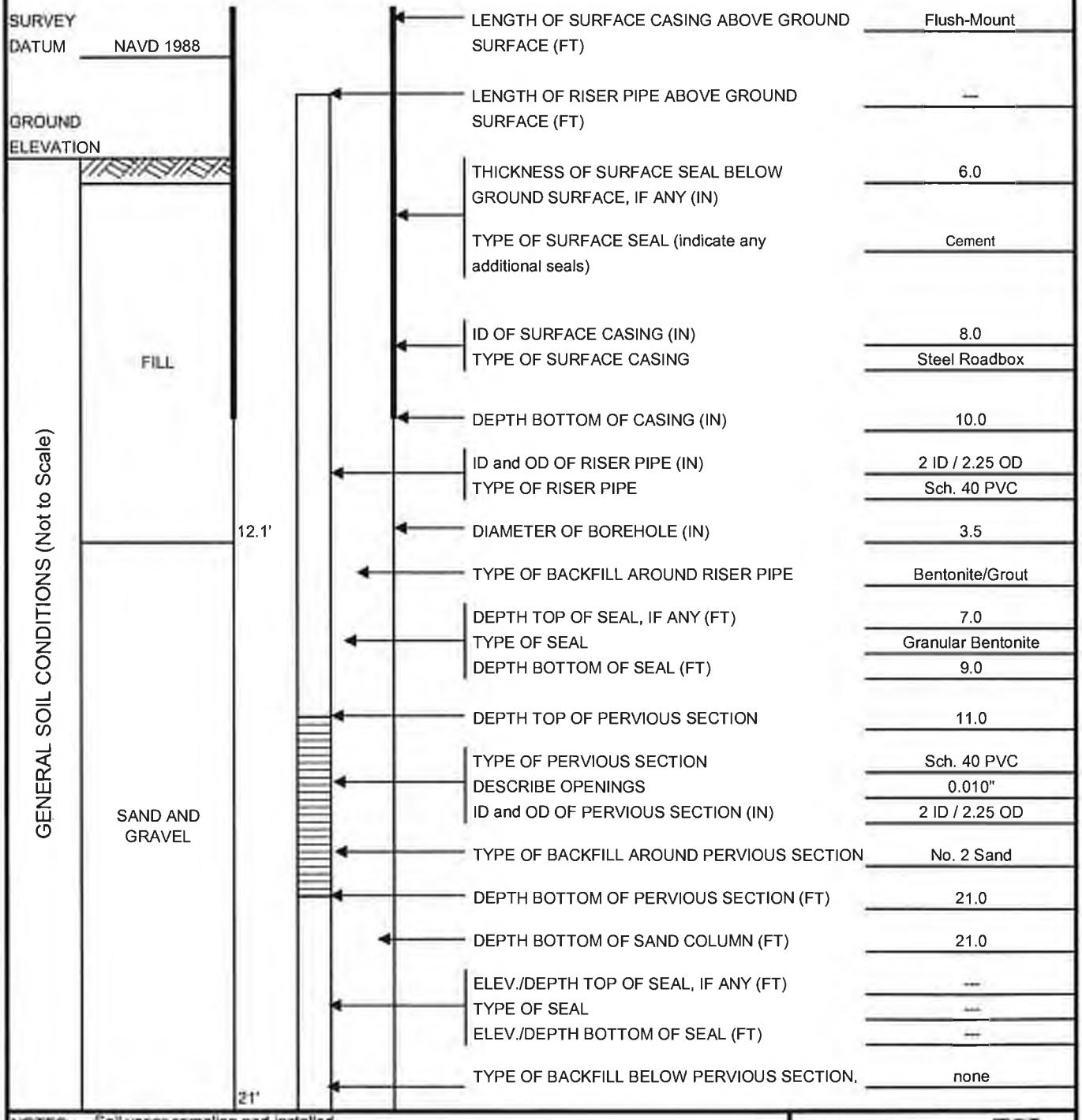
ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW201

Project 50 Tufts Street
Location Somerville, MA
Client UniFirst Corporation
Contractor Geosearch — Driller Rodney Kaddy
Inspected by Heather Ballantyne — Date Started 7/11/07
Checked by — Date Completed 7/11/07

PG. 1 OF 1
Boring No. MW201
Location 60 Tufts Street garage (street side)
Project No. 045162



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	—
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	6.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Cement
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	3.5
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite/Grout
DEPTH TOP OF SEAL, IF ANY (FT)	7.0
TYPE OF SEAL	Granular Bentonite
DEPTH BOTTOM OF SEAL (FT)	9.0
DEPTH TOP OF PERVIOUS SECTION	11.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	21.0
DEPTH BOTTOM OF SAND COLUMN (FT)	21.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	—
TYPE OF SEAL	—
ELEV./DEPTH BOTTOM OF SEAL (FT)	—
TYPE OF BACKFILL BELOW PERVIOUS SECTION,	none

NOTES: Soil vapor sampling port installed.

GEI

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400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW202

DRILLING METHOD: Geoprobe
GROUND SURFACE ELEVATION (FT): 28.1
NORTHING: 2964752.29 **EASTING:** 767043.99
DRILLED BY: Geosearch R. Kaddy
LOGGED BY: H.Ballantyne

LOCATION: 60 Tufts Street
TOTAL DEPTH (FT): 20.5
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 7/10/07 - 7/10/07

DEPTH FT.	SAMPLE INFORMATION TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0	GP1	60	30	PUSH	GP1 (0-9") 0.0 GP1 (9-30") 0.0		GP1 (0-9"): WIDELY GRADED SAND WITH GRAVEL (SW); ~60% fine to coarse sand, ~35% fine to coarse sub-angular to sub-rounded gravel (up to 1.5"-diameter), ~5% silt, trace asphalt, dry, loose, black, FILL. GP1 (9-31"): WIDELY GRADED SAND WITH SILT (SW-SM); ~80% fine to coarse sand, ~10% fine to coarse angular to sub-rounded gravel (up to 1"-diameter), ~10% silt, gravel lens from 28-29", dry, loose, tan to brown, FILL.
2							
4							
6	GP2	60	55	PUSH	0.0		GP2: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~80% fine to coarse sand, ~10% fine to coarse angular to sub-rounded gravel (up to 1.5"-diameter), ~10% silt, dry, denser than GP1, tan to brown, FILL.
8							
10	GP3	60	48	PUSH	0.0		GP3: Similar to GP2, but moist at 14.5 feet.
12							
14							
16	GP4	60	44	PUSH	GP4 (0-38") 0.0		GP4 (0-38"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% fine to coarse sand, ~35% fine to coarse angular to sub-angular gravel (up to 1.5"-diameter), ~15% silt, wet, dense, brown, SAND AND GRAVEL.
18					GP4 (38-44") 0.0		GP4 (38-44"): NARROWLY GRADED SAND (SP); ~95% medium to coarse sand, ~5% silt, wet, loose, brown, SAND AND GRAVEL.
20		6	0	PUSH	NA		Bottom of boring at 20.5 feet, casing refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN. = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

On first attempt to advance boring, the 10 to 15 foot sample was lost in the hole. We backfilled the hole to 3 feet and installed a shallow soil vapor point. We moved the boring 3 feet east and continued drilling. On the second attempt the sample from 20-20.5' was not recovered. Monitoring well with soil vapor sampling port installed. Environmental samples were collected from 13-15' and 17-18'.

LITHOLOGY:

ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW202

Project 50 Tufts Street

Location Somerville, MA

Client UniFirst Corporation

Contractor Geosearch | Driller Rodney Kaddy

Inspected by Heather Ballantyne | Date Started 7/10/07

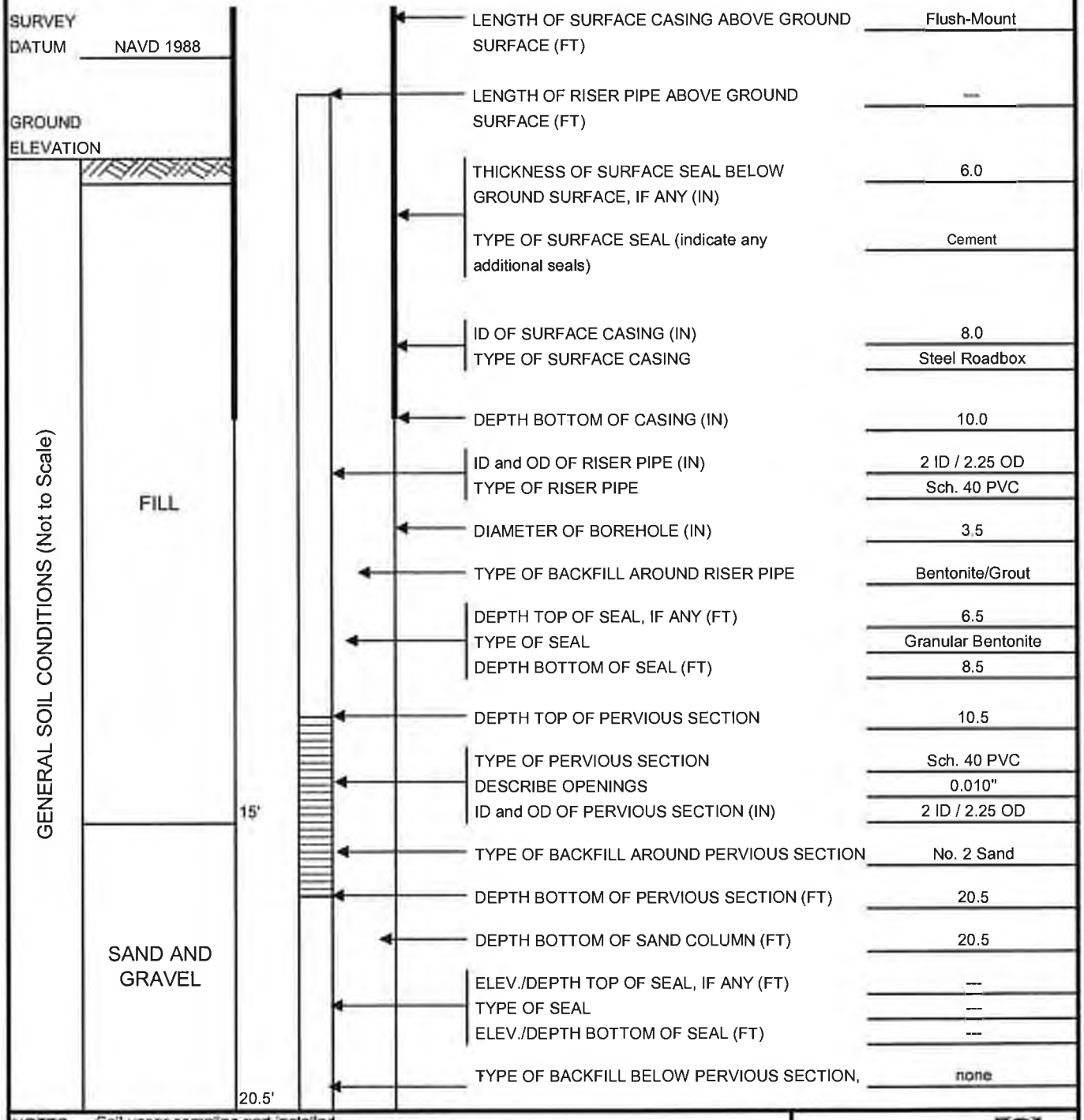
Checked by | Date Completed 7/10/07

PG. 1 OF 1

Boring No. MW202

Location 60 Tufts Street garage (RR side)

Project No. 045162


SURVEY DATUM NAVD 1988
GROUND ELEVATION
GENERAL SOIL CONDITIONS (Not to Scale)
FILL
SAND AND GRAVEL
15'
20.5'
LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT) Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT) ---
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN) 6.0
TYPE OF SURFACE SEAL (indicate any additional seals) Cement
ID OF SURFACE CASING (IN) 8.0
TYPE OF SURFACE CASING Steel Roadbox
DEPTH BOTTOM OF CASING (IN) 10.0
ID and OD OF RISER PIPE (IN) 2 ID / 2.25 OD
TYPE OF RISER PIPE Sch. 40 PVC
DIAMETER OF BOREHOLE (IN) 3.5
TYPE OF BACKFILL AROUND RISER PIPE Bentonite/Grout
DEPTH TOP OF SEAL, IF ANY (FT) 6.5
TYPE OF SEAL Granular Bentonite
DEPTH BOTTOM OF SEAL (FT) 8.5
DEPTH TOP OF PERVIOUS SECTION 10.5
TYPE OF PERVIOUS SECTION Sch. 40 PVC
DESCRIBE OPENINGS 0.010"
ID and OD OF PERVIOUS SECTION (IN) 2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT) 20.5
DEPTH BOTTOM OF SAND COLUMN (FT) 20.5
ELEV./DEPTH TOP OF SEAL, IF ANY (FT) ---
TYPE OF SEAL ---
ELEV./DEPTH BOTTOM OF SEAL (FT) ---
TYPE OF BACKFILL BELOW PERVIOUS SECTION, none

NOTES: Soil vapor sampling port installed.

GEI Consultants

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GEI Consultants, Inc.
400 Unicorn Park
Woburn, MA 01801

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045162

BORING LOG
PAGE 1 of 1
MW203

DRILLING METHOD: Geoprobe
GROUND SURFACE ELEVATION (FT): 22.1
NORTHING: 2964241.66 **EASTING:** 767472.88
DRILLED BY: Geosearch R. Kaddy
LOGGED BY: H. Ballantyne

LOCATION: Southern grassy area-50 Tufts Street
TOTAL DEPTH (FT): 18
VERT. DATUM: NAVD 1988
HOR. DATUM: MA State Plane (NAD 83) (FT)
DATE START / END: 7/11/07 - 7/11/07

DEPTH FT.	SAMPLE INFORMATION: TYPE and NO.	PEN IN.	REC IN.	Blow Count	PID (ppm)	LITHOLOGY	SOIL / BEDROCK DESCRIPTION
0	GP1	60	22	PUSH PUSH PUSH	GP1 (0-6") 0.0 GP1 (6-12") 0.0 GP1 (12-22") 0.0		GP1 (0-6"): SILTY SAND (SM); ~70% fine to coarse sand, ~20% silt, ~10% fine angular to sub-angular gravel (up to 0.5"-diameter), trace roots, dry, loose, brown, TOPSOIL. GP1 (6-12"): SILTY SAND (SM); ~65% fine to coarse sand, ~30% silt, ~5% fine to coarse sub-rounded to rounded gravel (up to 1"-diameter), dry, loose, brown, FILL. GP1 (12-22"): SILTY SAND (SM); ~75% fine to coarse sand, ~25% silt, trace fine angular gravel, trace coal fragments, loose, dark brown, FILL.
2							
4							
6	GP2	60	42	PUSH PUSH	GP2 (0-15") 0.0 GP2 (15-42") 0.0		GP2 (0-15"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% fine to coarse sand, ~20% fine to coarse angular to sub-angular gravel (up to 1"-diameter), ~10% silt, trace brick fragments, trace wood fragments, trace glass, loose, dry, brown, FILL. GP2 (15-42"): SANDY SILT (ML); ~60% silt, ~40% fine to coarse sand, trace gravel, sand lenses at 36-37" and 39-42", non-plastic, low strength, moderate dilatency, dry to moist, dense, mottled gray and brown, SANDY SILT.
8							
10	GP3	60	36	PUSH	0.0		GP3: SILTY SAND WITH GRAVEL (SM); ~60% fine to coarse sand, ~20% silt, ~20% fine to coarse angular to sub-angular gravel (up to 1"-diameter), wet, dense, brown, TILL.
12							
14							
16							
18							Bottom of boring at 18 feet, no refusal.

ABBREVIATIONS:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)
NM = NOT MEASURED
(ppm) = PARTS PER MILLION
IN = INCHES
FT. = FEET
Vac. Ex. = VACUUM EXCAVATION
HSA = HOLLOW STEM AUGER
WOH = WEIGHT OF HAMMER
BLOWS PER 6 IN. WITH 140 LB. SAFETY HAMMER FALLING 30 IN. TO DRIVE A 2.0 IN OUTER DIAMETER SPLIT SPOON SAMPLER

NOTES:

Damaged GP3 macrocore in geoprobe shoe. Drilled to 18 feet and set the monitoring well. Monitoring well with soil vapor sampling port installed. Environmental samples taken at 8-10' and 13-15'.

LITHOLOGY:

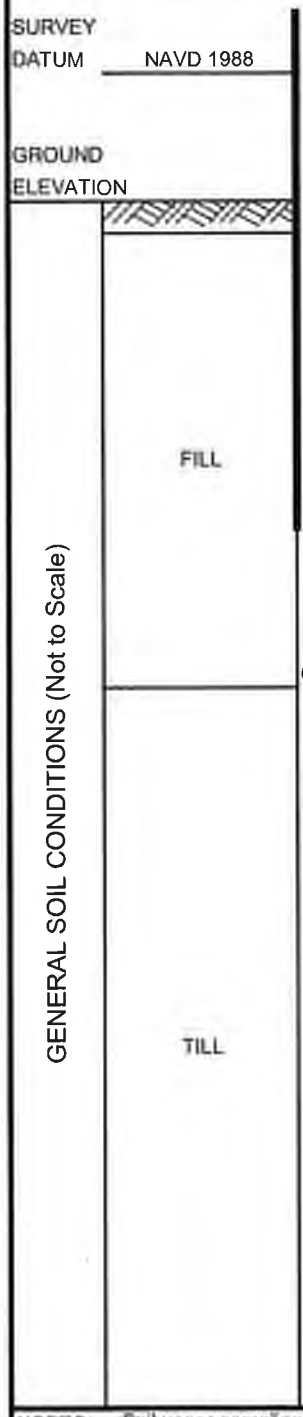
ASPHALT/ CONCRETE
FILL
TILL
SILTY SAND/ SAND
ORGANIC SOIL
SILT
SAND AND GRAVEL
BEDROCK

GROUNDWATER OBSERVATION WELL REPORT

MW203

Project: 50 Tufts Street
Location: Somerville, MA
Client: UniFirst Corporation
Contractor: Geosearch
Driller: Rodney Kaddy
Inspected by: Heather Ballantyne
Date Started: 7/11/07
Checked by:
Date Completed: 7/11/07

PG. 1 OF 1
Boring No.: MW203
Location: 50 Tufts Street (southern grass)
Project No.: 045162



LENGTH OF SURFACE CASING ABOVE GROUND SURFACE (FT)	Flush-Mount
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (FT)	—
THICKNESS OF SURFACE SEAL BELOW GROUND SURFACE, IF ANY (IN)	6.0
TYPE OF SURFACE SEAL (indicate any additional seals)	Cement
ID OF SURFACE CASING (IN)	8.0
TYPE OF SURFACE CASING	Steel Roadbox
DEPTH BOTTOM OF CASING (IN)	10.0
ID and OD OF RISER PIPE (IN)	2 ID / 2.25 OD
TYPE OF RISER PIPE	Sch. 40 PVC
DIAMETER OF BOREHOLE (IN)	3.5
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite/Grout
DEPTH TOP OF SEAL, IF ANY (FT)	2.0
TYPE OF SEAL	Granular Bentonite
DEPTH BOTTOM OF SEAL (FT)	4.0
DEPTH TOP OF PERVIOUS SECTION	6.0
TYPE OF PERVIOUS SECTION	Sch. 40 PVC
DESCRIBE OPENINGS	0.010"
ID and OD OF PERVIOUS SECTION (IN)	2 ID / 2.25 OD
TYPE OF BACKFILL AROUND PERVIOUS SECTION	No. 2 Sand
DEPTH BOTTOM OF PERVIOUS SECTION (FT)	18.0
DEPTH BOTTOM OF SAND COLUMN (FT)	18.0
ELEV./DEPTH TOP OF SEAL, IF ANY (FT)	---
TYPE OF SEAL	---
ELEV./DEPTH BOTTOM OF SEAL (FT)	---
TYPE OF BACKFILL BELOW PERVIOUS SECTION,	none

NOTES: Soil vapor sampling port installed.

GEI Consultants

BORING INFORMATION

LOCATION: 50 Tufts St

GROUND SURFACE EL. (ft): NM | **DATE START/END:** 2/12/2024 - 2/12/2024

VERTICAL DATUM: NM | **DRILLING COMPANY:** Northern Drill Service, Inc.

TOTAL DEPTH (ft): 5.0 | **DRILLER NAME:**

LOGGED BY: N. Troccolo | **RIG TYPE:** Geoprobe 6620DT

BORING

B101

DRILLING INFORMATION

HAMMER TYPE: Automatic | **CASING I.D./O.D.:** 2 inch / NA | **CORE BARREL TYPE:** Macrocore

AUGER I.D./O.D.: NA / NA | **DRILL ROD O.D.:** NM | **CORE BARREL I.D./O.D.** NA / NA

DRILLING METHOD: Direct Push

WATER LEVEL DEPTHS (ft): Not measured

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer

S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger

Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter

NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 5	60/42	PUSH	S1 (0-3") PID = 0.0 ppm S1 (3-42") PID = 0.0 ppm		(0-3") ASPHALT
							SAND	(3-42") NARROWLY GRADED SAND WITH SILT (SP-SM): ~80% Fine to coarse sand, ~10% nonplastic fines, ~10% gravel up to 0.75", brown, no odor.
	5							End of boring at 5'.

NOTES: Environmental sample collected at (0-12"), (12-36"), and (36-42").

PROJECT NAME: Tufts Street

CITY/STATE: Somerville, Massachusetts

GEI PROJECT NUMBER: 045163

GEI Consultants

BORING INFORMATION

LOCATION: 50 Tufts St

GROUND SURFACE EL. (ft): NM | **DATE START/END:** 2/12/2024 - 2/12/2024

VERTICAL DATUM: NM | **DRILLING COMPANY:** Northern Drill Service, Inc.

TOTAL DEPTH (ft): 5.0 | **DRILLER NAME:**

LOGGED BY: N. Troccolo | **RIG TYPE:** Geoprobe 6620DT

BORING

B102

DRILLING INFORMATION

HAMMER TYPE: Automatic | **CASING I.D./O.D.:** 2 inch / NA | **CORE BARREL TYPE:** Macrocore

AUGER I.D./O.D.: NA / NA | **DRILL ROD O.D.:** NM | **CORE BARREL I.D./O.D.** NA / NA

DRILLING METHOD: Direct Push

WATER LEVEL DEPTHS (ft): Not measured

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation
= Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer

S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger

Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter

NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 5	60/30	NA	S1 (0-3") PID = 0.0 ppm S1 (3-30") PID = 0.1 ppm		(0-3") ASPHALT
							SAND	(3-30") NARROWLY GRADED SAND WITH SILT (SP-SM): ~80% Fine to coarse sand, ~10% nonplastic fines, ~10% gravel up to 0.75", light brown, no odor.
	5							End of boring at 5'.

NOTES: Environmental sample collected at (0-12") and (12-30").

PROJECT NAME: Tufts Street

CITY/STATE: Somerville, Massachusetts

GEI PROJECT NUMBER: 045163

GEI Consultants

BORING INFORMATION

LOCATION: 50 Tufts St

GROUND SURFACE EL. (ft): NM | **DATE START/END:** 2/12/2024 - 2/12/2024

VERTICAL DATUM: NM | **DRILLING COMPANY:** Northern Drill Service, Inc.

TOTAL DEPTH (ft): 5.0 | **DRILLER NAME:**

LOGGED BY: N. Troccolo | **RIG TYPE:** Geoprobe 6620DT

BORING

B103

DRILLING INFORMATION

HAMMER TYPE: Automatic | **CASING I.D./O.D.:** 2 inch / NA | **CORE BARREL TYPE:** Macrocore

AUGER I.D./O.D.: NA / NA | **DRILL ROD O.D.:** NM | **CORE BARREL I.D./O.D.** NA / NA

DRILLING METHOD: Direct Push

WATER LEVEL DEPTHS (ft): Not measured

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation
= Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer

S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger

Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter

NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 5	60/41	NA	S1 (0-4") PID = 0.6 ppm		(0-4") ASPHALT
						S1 (4-24") PID = 21.8 ppm	SAND	(4-24") SILTY SAND WITH GRAVEL (SM): ~70% Fine to coarse sand, ~15% nonplastic fines, ~15% gravel up to 0.5", dark brown, no odor.
						S1 (24-41") PID = 0.1 ppm		(24-41") NARROWLY GRADED SAND WITH SILT (SP-SM): ~80% Fine to coarse sand, ~15% nonplastic fines, ~5% gravel up to 0.5", light brown, no odor.
	5							End of boring at 5'.

NOTES: Environmental sample collected at (0-12"), (12-36"), and (36-41").

PROJECT NAME: Tufts Street

CITY/STATE: Somerville, Massachusetts

GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS.GPJ 6/25/24

BORING INFORMATION

LOCATION: 50 Tufts St

GROUND SURFACE EL. (ft): NM | **DATE START/END:** 2/12/2024 - 2/12/2024

VERTICAL DATUM: NM | **DRILLING COMPANY:** Northern Drill Service, Inc.

TOTAL DEPTH (ft): 5.0 | **DRILLER NAME:**

LOGGED BY: N. Troccolo | **RIG TYPE:** Geoprobe 6620DT

BORING

B104

DRILLING INFORMATION

HAMMER TYPE: Automatic | **CASING I.D./O.D.:** 2 inch / NA | **CORE BARREL TYPE:** Macrocore

AUGER I.D./O.D.: NA / NA | **DRILL ROD O.D.:** NM | **CORE BARREL I.D./O.D.** NA / NA

DRILLING METHOD: Direct Push

WATER LEVEL DEPTHS (ft): Not measured

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation
= Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer

S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger

Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter

NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 5	60/40	NA	S1 (0-3") PID = 0.1 ppm		(0-3") ASPHALT
						S1 (3-26") PID = 0.9 ppm	SAND	(3-26") SILTY SAND (SM): ~75% Fine to coarse sand, ~15% nonplastic fines, ~10% gravel up to 0.5", brown, no odor.
						S1 (26-40") PID = 0.3 ppm		(26-40") NARROWLY GRADED SAND WITH SILT (SP-SM): ~85% Fine to coarse sand, ~10% nonplastic fines, ~5% gravel up to 0.5", light brown, no odor.
	5							End of boring at 5'.

NOTES: Environmental sample collected at (0-12"), (12-36"), and (36-40").

PROJECT NAME: Tufts Street

CITY/STATE: Somerville, Massachusetts

GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS.GPJ 6/25/24

BORING INFORMATION

LOCATION: 50 Tufts St

GROUND SURFACE EL. (ft): NM | **DATE START/END:** 2/12/2024 - 2/12/2024

VERTICAL DATUM: NM | **DRILLING COMPANY:** Northern Drill Service, Inc.

TOTAL DEPTH (ft): 5.0 | **DRILLER NAME:**

LOGGED BY: N. Troccolo | **RIG TYPE:** Geoprobe 6620DT

BORING

B105

DRILLING INFORMATION

HAMMER TYPE: Automatic | **CASING I.D./O.D.:** 2 inch / NA | **CORE BARREL TYPE:** Macrocore

AUGER I.D./O.D.: NA / NA | **DRILL ROD O.D.:** NM | **CORE BARREL I.D./O.D.** NA / NA

DRILLING METHOD: Direct Push

WATER LEVEL DEPTHS (ft): Not measured

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer

S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger

Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter

NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 5	60/33		S1 (0-8") PID = 0.0 ppm S1 (8-33") PID = 0.1 ppm	SAND	(0-8") NARROWLY GRADED SAND WITH GRAVEL (SP): ~75% Fine to coarse sand, ~20% gravel up to 0.5", ~5% nonplastic fines, black/dark brown, no odor. (26-40") NARROWLY GRADED SAND WITH SILT (SP-SM): ~85% Fine to coarse sand, ~10% nonplastic fines, ~5% gravel up to 0.5", brown, no odor. Lens of large tree root from (8-10").
	5							End of boring at 5'.

NOTES: Environmental sample collected at (0-12") and (12-33").

PROJECT NAME: Tufts Street

CITY/STATE: Somerville, Massachusetts

GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS.GPJ 6/25/24

BORING INFORMATION

LOCATION: 50 Tufts Street - south gravel area
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM:
TOTAL DEPTH (ft): 25.0
LOGGED BY: D. Miller
DATE START/END: 3/18/2024 - 3/18/2024
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: Tim Tucker
RIG TYPE: Mobile B-53 Track-Mounted

BORING

MW203R

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: 4.25 inch / NA
DRILLING METHOD: Hollow Stem Auger
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: 2 inch / NA
DRILL ROD O.D.: NM
CORE BARREL TYPE:
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 2	24/16	4-9-17-13	PID: S1 = 0.6 ppmv	Fill	S1 WIDELY GRADED SAND WITH GRAVEL (SW): ~70% sand, ~25% subangular gravel up to 1", ~5% nonplastic fines, grayish brown, dry. Top ~2" is dense grade gravel.
	5	S2	5 to 7	24/16	7-7-5-7	PID: S2 = 0.8 ppmv		S2 SILTY SAND (SM): ~60% fine to coarse sand, ~35% nonplastic fines, ~5% subangular gravel up to 0.5", grayish brown, dry. Contains ash-like material and brick fragments. Contains thin plastic sheet piece at (14").
	10	S3	10 to 12	24/18	5-8-10-23	PID: S3 = 4.9 ppmv	Sandy Silt	S3 SANDY SILT (ML): ~70% nonplastic fines, ~25% mostly fine sand, ~5% subangular gravel up to 0.5", dry, mottled gray/brown.
	15	S4	15 to 17	24/18	20-31-26-35	PID: S4 = 51.6 ppmv		S4 SANDY SILT WITH GRAVEL (ML): ~70% nonplastic fines, ~15% fine to coarse sand, ~15% subangular gravel up to 1", dry, mottled gray/brown. Contains seam of ~100% brown sand with black ash-like material.
	20	S5	20 to 22	24/16	7-12-11-8	PID: S5 = 1028 ppmv	Silty Sand	S5 SILTY SAND WITH GRAVEL (ML): ~70% fine to coarse sand, ~15% nonplastic fines, ~15% subangular and subround gravel up to 1", wet, gray.
	25							END OF BORING AT 25'. BACKFILLED WITH SOIL CUTTINGS TO 23'. COMPLETED AS MONITORING WELL.

NOTES: Soil samples screened in the field for VOCs using a PID with 10.6 eV lamp, calibrated to an isobutylene standard.
ppmv: parts per million by volume.

PROJECT NAME: Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME SH-MW2R & MW203R BORINGS.GPJ 6/25/24

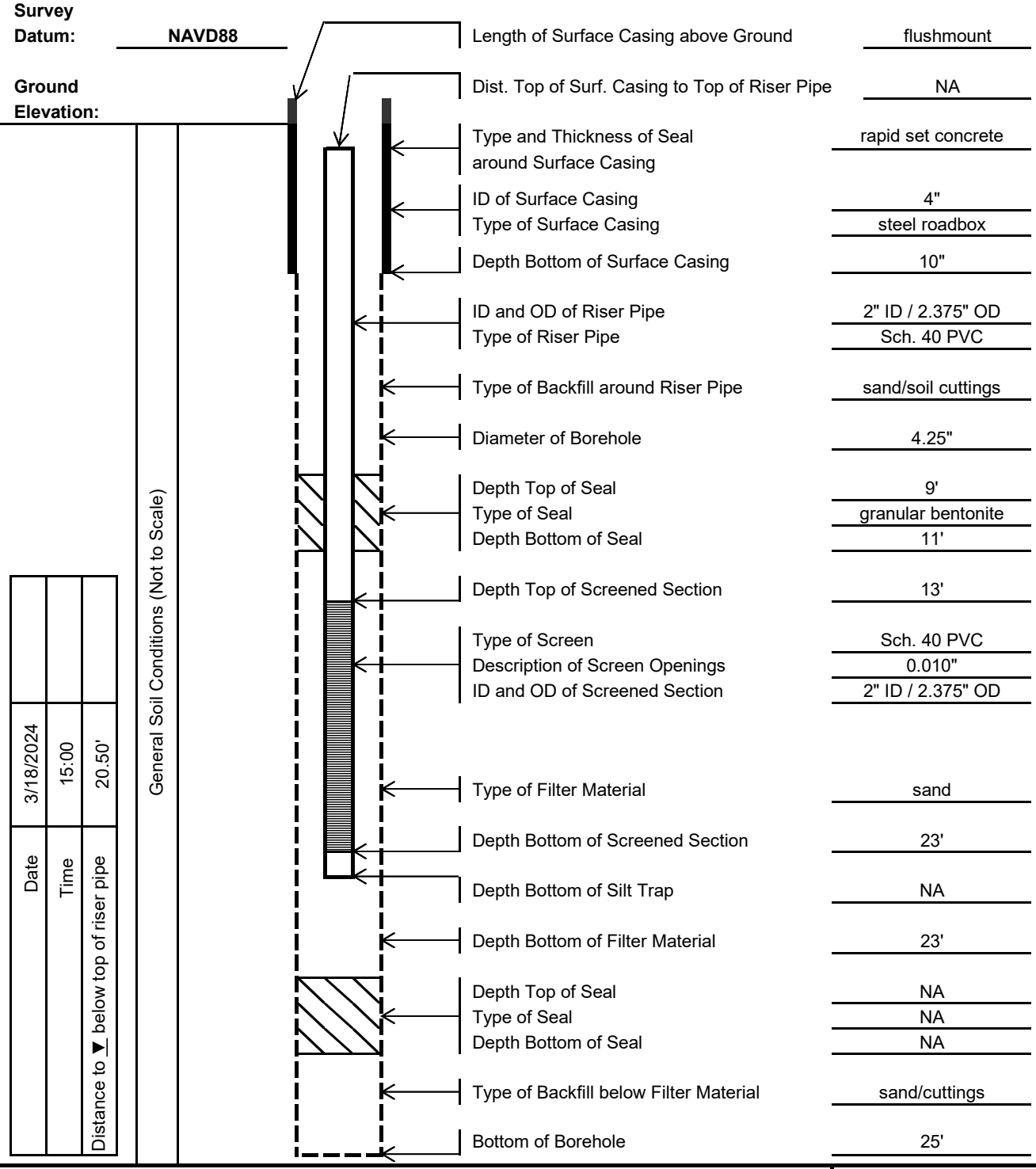
Groundwater Well Installation Log

MW203R

Project	Tufts Street	**GEI Proj. No.**	1904684
City / Town	Somerville, MA	**Location**	50 Tufts Street
Client	UniFirst		Southern gravel area
Contractor	Northern Drill Service		
Driller	T. Tucker, C. Flateau **GEI Rep.** D. Miller	**Install Date**	3/18/2024

Survey Datum: NAVD88

Ground Elevation:



Length of Surface Casing above Ground	flushmount
Dist. Top of Surf. Casing to Top of Riser Pipe	NA
Type and Thickness of Seal around Surface Casing	rapid set concrete
ID of Surface Casing	4"
Type of Surface Casing	steel roadbox
Depth Bottom of Surface Casing	10"
ID and OD of Riser Pipe	2" ID / 2.375" OD
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	sand/soil cuttings
Diameter of Borehole	4.25"
Depth Top of Seal	9'
Type of Seal	granular bentonite
Depth Bottom of Seal	11'
Depth Top of Screened Section	13'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010"
ID and OD of Screened Section	2" ID / 2.375" OD
Type of Filter Material	sand
Depth Bottom of Screened Section	23'
Depth Bottom of Silt Trap	NA
Depth Bottom of Filter Material	23'
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	sand/cuttings
Bottom of Borehole	25'

Date	Time	Distance to ▼ below top of riser pipe
3/18/2024	15:00	20.50'

Notes:

NA = Not applicable

Location drilled to 25' initially; backfilled to 23' to set well.

GEI Consultants

BORING INFORMATION

LOCATION: 50 Tufts Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM:
TOTAL DEPTH (ft): 23.0
LOGGED BY: D. Miller
DATE START/END: 3/18/2024 - 3/18/2024
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: Tim Tucker
RIG TYPE: Mobile B-53 Track-Mounted

BORING

SH-MW2R

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: 4.25 inch / NA
DRILLING METHOD: Hollow Stem Auger
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: 2 inch / NA
DRILL ROD O.D.: NM
CORE BARREL TYPE:
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
								(0-6") Asphalt.
		S1	0.5 to 2.5	24/18	6-16-11-6	PID: S1 (0-8") = 12.8 ppmv PID: S1 (8-18") = 3.5 ppmv	Fill	S1 (0-8") WIDELY GRADED SAND WITH GRAVEL (SW): ~80% sand, ~15% subangular gravel up to 1", ~5% nonplastic fines, dry, dark brown. S1 (8-18") SILTY SAND (SM): ~60% fine to coarse sand, ~35% low-plastic fines, ~5% subangular gravel up to 0.5", dry, brown. Contains brick and asphalt fragments.
	5	S2	5 to 7	24/12	1-5-4-3	PID: S2 = 3.6 ppmv		S2 SANDY SILT (ML): ~60% low-plastic fines, ~35% mostly fine sand, ~5% subangular gravel up to 1", moist, grayish brown. Contains brick and some ash-like material. Contains crushed rock from (6-8") and crushed brick from (8-10").
	10	S3	10 to 12	24/22	5-20-21-22	PID: S3 = 6.4 ppmv	Silt	S3 SANDY SILT WITH GRAVEL (ML): ~70% nonplastic fines, ~15% mostly fine sand, ~15% subrounded gravel up to 1", dry, olive-brown.
	15	S4	15 to 15.8	9/8	92-100/3"	PID: S4 = 33.2 ppmv	Silty Sand	S4 (0-3") SILTY SAND WITH GRAVEL (SM): ~70% fine to coarse sand, ~15% nonplastic fines, ~15% subangular and subrounded gravel up to 1", moist, brown. S4 (3-8") Crushed gray rock.
	20	S5	20 to 20.8	10/10	53-100/4"	PID: S5 = 55.8 ppmv		S5 (0-5") WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM): ~50% sand, ~40% subangular gravel up to 1", ~10% nonplastic fines, wet, gray/brown. S5 (5-10") Crushed gray rock.
	25							REFUSAL AT 23'. COMPLETED AS MONITORING WELL.

NOTES: Soil samples screened in the field for VOCs using a PID with 10.6 eV lamp, calibrated to an isobutylene standard.
ppmv: parts per million by volume.

PROJECT NAME: Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME SH-MW2R & MW203R BORINGS.GPJ 6/25/24

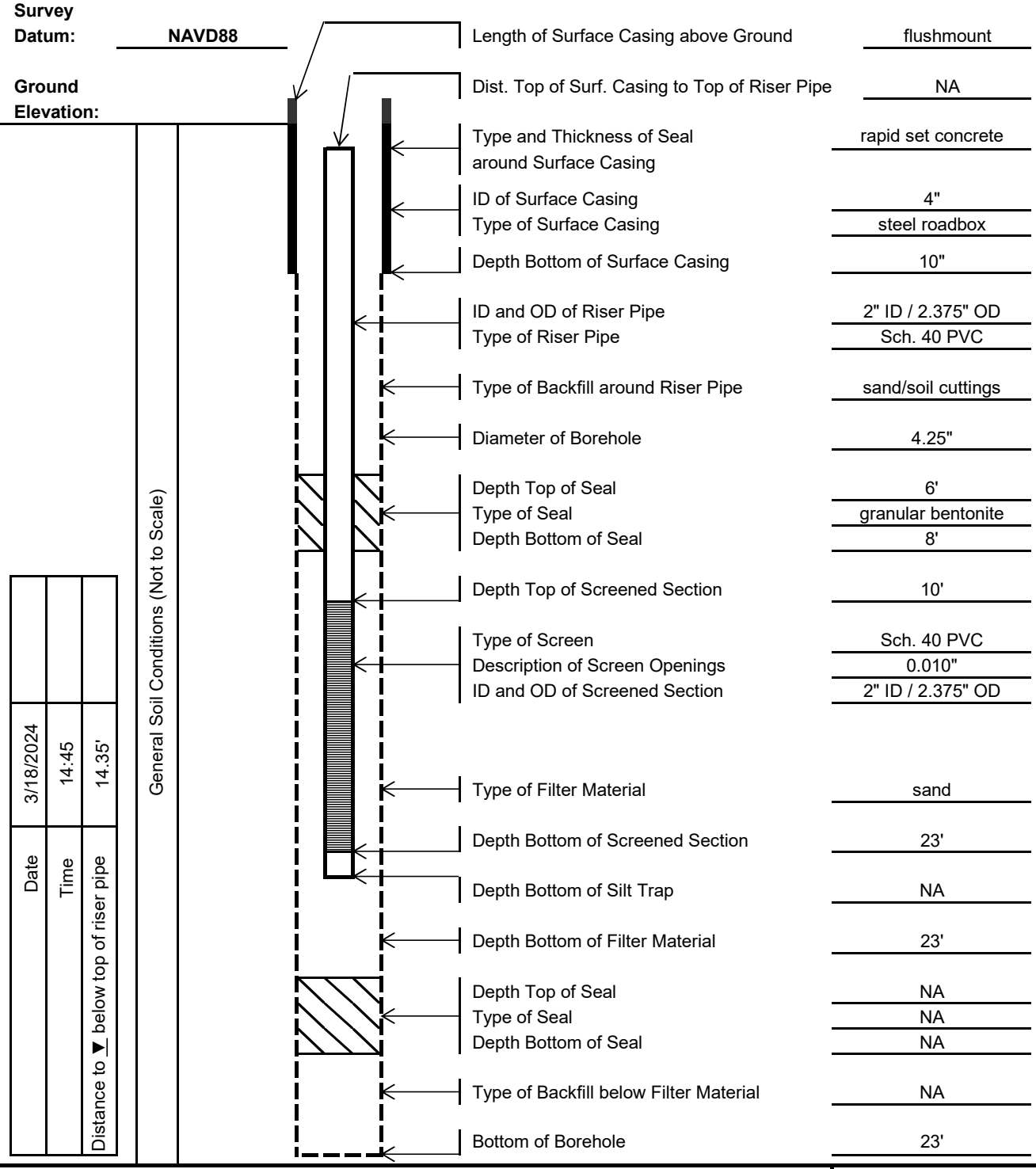
Groundwater Well Installation Log

SH-MW2R

Project	Tufts Street	**GEI Proj. No.**	1904684
City / Town	Somerville, MA	**Location**	50 Tufts Street
Client	UniFirst		
Contractor	Northern Drill Service		
Driller	T. Tucker, C. Flateau **GEI Rep.** D. Miller	**Install Date**	3/18/2024

Survey Datum: NAVD88

Ground Elevation:



Length of Surface Casing above Ground	flushmount
Dist. Top of Surf. Casing to Top of Riser Pipe	NA
Type and Thickness of Seal around Surface Casing	rapid set concrete
ID of Surface Casing	4"
Type of Surface Casing	steel roadbox
Depth Bottom of Surface Casing	10"
ID and OD of Riser Pipe	2" ID / 2.375" OD
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	sand/soil cuttings
Diameter of Borehole	4.25"
Depth Top of Seal	6'
Type of Seal	granular bentonite
Depth Bottom of Seal	8'
Depth Top of Screened Section	10'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010"
ID and OD of Screened Section	2" ID / 2.375" OD
Type of Filter Material	sand
Depth Bottom of Screened Section	23'
Depth Bottom of Silt Trap	NA
Depth Bottom of Filter Material	23'
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	NA
Bottom of Borehole	23'

Notes:
NA = Not applicable

GEI Consultants

Revised May 2026

BORING INFORMATION

LOCATION: 50 Tufts St. - in gravel near Washington St.
GROUND SURFACE EL. (ft): 16.06
VERTICAL DATUM: NAVD 88
TOTAL DEPTH (ft): 20.0
LOGGED BY: C. Saledas
DATE START/END: 5/16/2022 - 5/16/2022
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: Tyler and Matt
RIG TYPE: Diedrich D-25

BORING

MW104R

PAGE 1 of 1

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Drive and Wash
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: 4 inch / 4.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Split Spoon
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
15		S1	0 to 2	24/4	3-4-3-2	S1(0-4"): 301 ppm	SAND AND GRAVEL	S1(0-4"): SILTY SAND WITH GRAVEL (SM); ~65% fine sand, ~20% non-plastic fines, ~15% subrounded gravel up to 1", brown.
		S2	2 to 4	24/9	6-4-7-3	S2(0-9"): Spiked up to 2932 ppm then dropped to 0 ppm.		S2(0-9"): SILTY SAND WITH GRAVEL (SM); ~60% fine sand, ~25% non-plastic fines, ~15% subrounded and subangular gravel up to 1", brown, brick fragments.
	5	S3	4 to 6	24/6	3-3-5-4	S3(0-6"): Spiked up to 376 ppm and then dropped to 0 ppm.		S3(0-6"): WIDELY GRADED GRAVEL WITH SAND (GW); ~55% subrounded gravel up to 1", ~40% sand, ~5% non-plastic fines, gray brown, wet.
10		S4	6 to 8	24/9	4-3-4-2	S4(0-9"): 15,000 ppm		S4(0-9"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% fine to coarse sand, ~25% subrounded and subangular gravel up to 0.75", ~15% non-plastic fines, gray brown, wet.
		S5	8 to 10	24/0	5-4-5-3	S5: No Recovery		S5: No Recovery
	10	S6	10 to 12	24/4	7-2-1-1	S6(0-4"): 0.0 ppm		S6(0-4"): WIDELY GRADED GRAVEL WITH SAND (GW); ~80% subrounded and subangular gravel up to 0.5", ~20% coarse sand, gray brown, wet.
5		S7	12 to 14	24/3	2-1-1-1	S7(0-3"): 167.3 ppm		S7(0-3"): NARROWLY GRADED SAND WITH GRAVEL (SP); ~80% fine sand, ~15% subrounded gravel up to 1", ~5% non-plastic fines, gray brown, wet.
		S8	14 to 16	24/5	8-11-6-7	S8(0-5"): 125.5 ppm		S8(0-5"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW); ~65% fine to coarse sand, ~30% subrounded and subangular gravel up to 1.5", ~5% non-plastic fines, gray brown, wet.
	15	S9	16 to 18	24/12	8-3-100/6"	S9(0-12"): 101.9 ppm	TILL	S9(0-12"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW); ~60% fine to coarse sand, ~35% subrounded and subangular gravel up to 1, ~5% non-plastic fines, gray brown, wet.
0		S10	18 to 20	24/0	100/1"	S10: No Recovery		S10: No recovery, used rollerbit to get down to 20'.
	20							End of boring at 20'. Completed as Monitoring Well (MW104R).
-5								

NOTES: Soil samples screened in the field for VOCs using a PID with 10.6 eV lamp, calibrated to an isobutylene standard.
ppmv: parts per million by volume.

PROJECT NAME: Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME MW104R BORING LOG (UPDATED 2026.04).GPJ 4/22/26

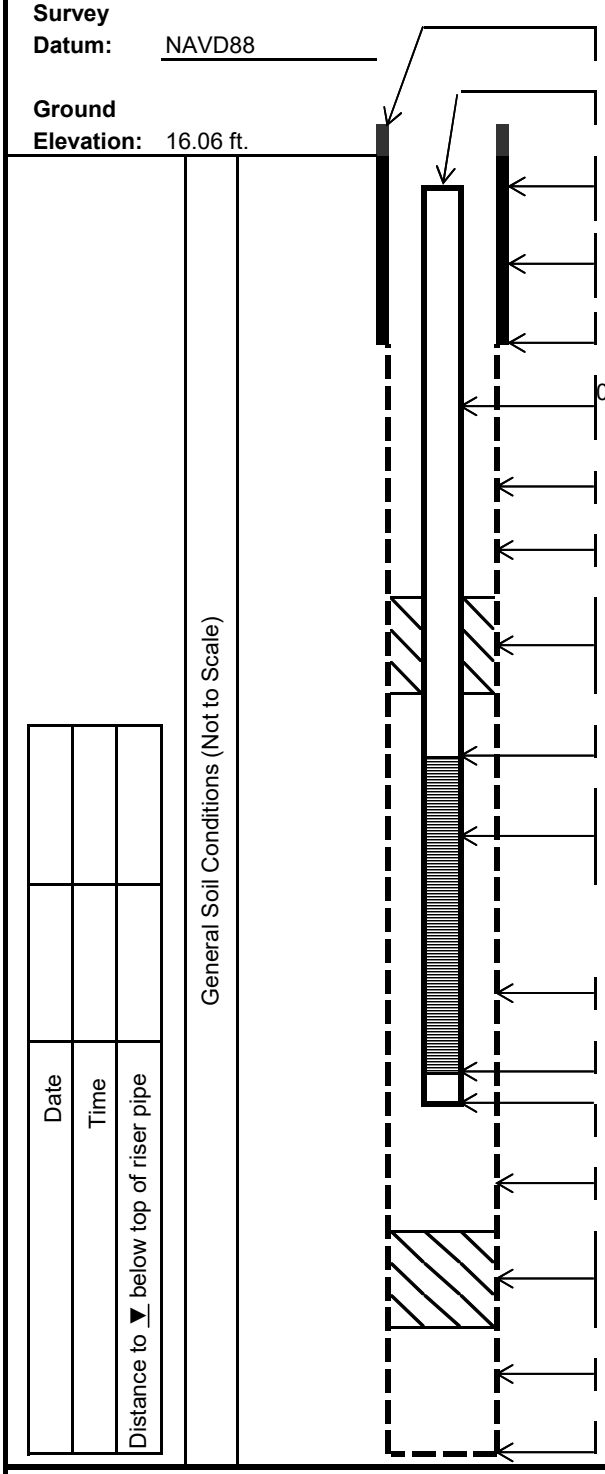
Groundwater Well Installation Log

MW104R

Project	Tufts Street	**GEI Proj. No.**	045163
City / Town	Somerville, MA	**Location**	50 Tufts Street
Client	Unifirst Corporation		Southern gravel area
Contractor	Northern Drill Service		Near Washington Street
Driller	Tyler **GEI Rep.** C. Saledas	**Install Date**	5/16/2022

Survey Datum: NAVD88

Ground Elevation: 16.06 ft.



Length of Surface Casing above Ground	NA; flushmount
Dist. Top of Surf. Casing to Top of Riser Pipe	2"
Type and Thickness of Seal around Surface Casing	Concrete
ID of Surface Casing	4"
Type of Surface Casing	Roadbox
Depth Bottom of Surface Casing	8"
ID and OD of Riser Pipe	2.0"/2.25"
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	No. 1 Sand
Diameter of Borehole	4"
Depth Top of Seal	1'
Type of Seal	Bentonite Chips
Depth Bottom of Seal	3'
Depth Top of Screened Section	5'
Type of Screen	Sch. 40 PVC-
Description of Screen Openings	0.010" Slotted
ID and OD of Screened Section	2.0"/2.25"
Type of Filter Material	No. 1 Sand
Depth Bottom of Screened Section	20'
Depth Bottom of Silt Trap	NA
Depth Bottom of Filter Material	20'
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	NA
Bottom of Borehole	20'

Notes:

NA = not applicable

Well log revised in May 2026 to reflect correct "Depth Bottom of Screened Section"

GEI Consultants

BORING INFORMATION

LOCATION: 17 Knowlton Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM:
TOTAL DEPTH (ft): 15.0
LOGGED BY: C. McAllum-Green
DATE START/END: 10/31/2024 - 10/31/2024
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: T. Kennedy
RIG TYPE: Mobile B-53 Track-Mounted

BORING

MW111R

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Drive and Wash
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: 4 inch / NA
DRILL ROD O.D.: NM
CORE BARREL TYPE:
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 5	60/60			FILL	G1 SILTY SAND (SM): ~75% fine to coarse sand, ~20% subangular gravel up to 2", ~5% nonplastic fines, brown, dry.
	5							
	10	S2	9 to 11	24/11	11-23-31-50	PID: S1 = 0.1 ppmv	TILL	S1 NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM): ~65% fine to medium sand, ~25% gravel up to 0.5", ~10% nonplastic fines, brown, moist.
								No recovery, hard drilling.
	15							END OF BORING AT 15'. COMPLETED AS MONITORING WELL MW111R SCREENED FROM 5 TO 15 feet.

NOTES: Location vacuum excavated from 0 to 5'. Roller bit used from 11 to 15' due to cobbles.
Soil samples screened in the field for VOCs using a PID with 10.6 eV lamp, calibrated to an isobutylene standard.
ppmv: parts per million by volume.

PROJECT NAME: Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME MW111R BORING.GPJ 2/11/25

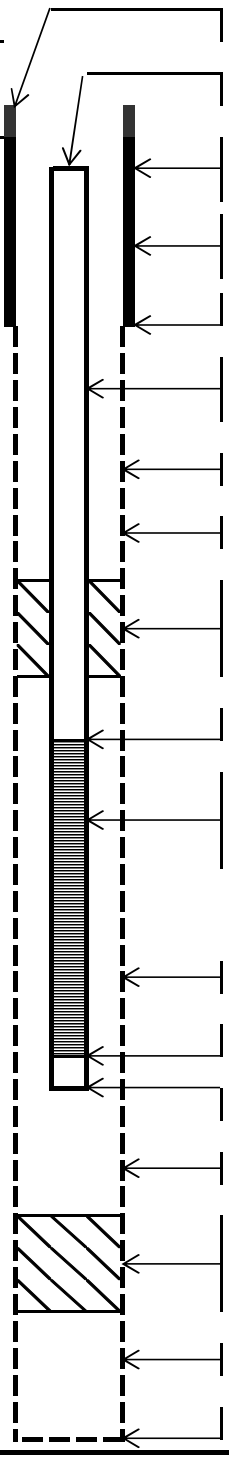
Groundwater Well Installation Log

MW-111R

Project	Tufts Street	**GEI Proj. No.**	1904684
City / Town	Somerville, MA	**Location**	17 Knowlton Street
Client	UniFirst		
Contractor	Northern Drill Service		
Driller	T. Kennedy **GEI Rep.** C. McCallum-Green	**Install Date**	10/31/2024

Survey Datum: **NAVD88**

Ground Elevation: NM



Date	Time	Distance to ▼ below top of riser pipe
10/31/2024	11:50	1.05'
11/14/2024	8:00	13.92'
11/25/2024	12:50	13.75'

Length of Surface Casing above Ground	flushmount
Dist. Top of Surf. Casing to Top of Riser Pipe	4"
Type and Thickness of Seal around Surface Casing	cement
ID of Surface Casing	3.5"
Type of Surface Casing	Steel roadbox
Depth Bottom of Surface Casing	1'
ID and OD of Riser Pipe	2" ID / 2.375" OD
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	Sand
Diameter of Borehole	4"
Depth Top of Seal	1'
Type of Seal	Granular bentonite
Depth Bottom of Seal	3'
Depth Top of Screened Section	5'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010"
ID and OD of Screened Section	2" ID / 2.375" OD
Type of Filter Material	Sand
Depth Bottom of Screened Section	15'
Depth Bottom of Silt Trap	15'
Depth Bottom of Filter Material	15'
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	NA
Bottom of Borehole	15'

Notes:
NA = Not applicable

GEI Consultants

BORING INFORMATION

LOCATION: Capuano School
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM: NM
TOTAL DEPTH (ft): 15.0
LOGGED BY: N. Troccolo
DATE START/END: 1/3/2025
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: Jake
RIG TYPE: Geoprobe 6620DT

BORING
MW301

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Direct Push
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: NA / NA
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Drive No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 5	60/0	NA			S1 (0-60"): Air knife, no recovery.
	5	S2	5 to 10	60/48	PUSH	S2 (0-48") PID =0.0 ppm	CLAY SILT	S2 (0-48") LEAN CLAY (CL): ~95% Low plastic fines, ~5% fine sand, no odor, light brown/gray. During drilling this strata was described as clay; however, the strata is actually a compact silt layer as observed across the Site.
	10	S3	10 to 15	60/56	PUSH	S3 (0-46") PID =0.0 ppm		S3 (0-46") LEAN CLAY (CL): ~95% Low plastic fines, ~5% fine sand, no odor, light brown/gray.
	15					S3 (46-56") PID =0.0 ppm	SAND	S3 (46-56") WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM): ~60% Fine to coarse sand, ~30% gravel up to 1", ~10% nonplastic fines, no odor, brown. End of boring at 15'.
	20							

NOTES: Monitoring well installed and screened from 5-15'.

PROJECT NAME: Tufts St
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS.GPJ 2/19/26

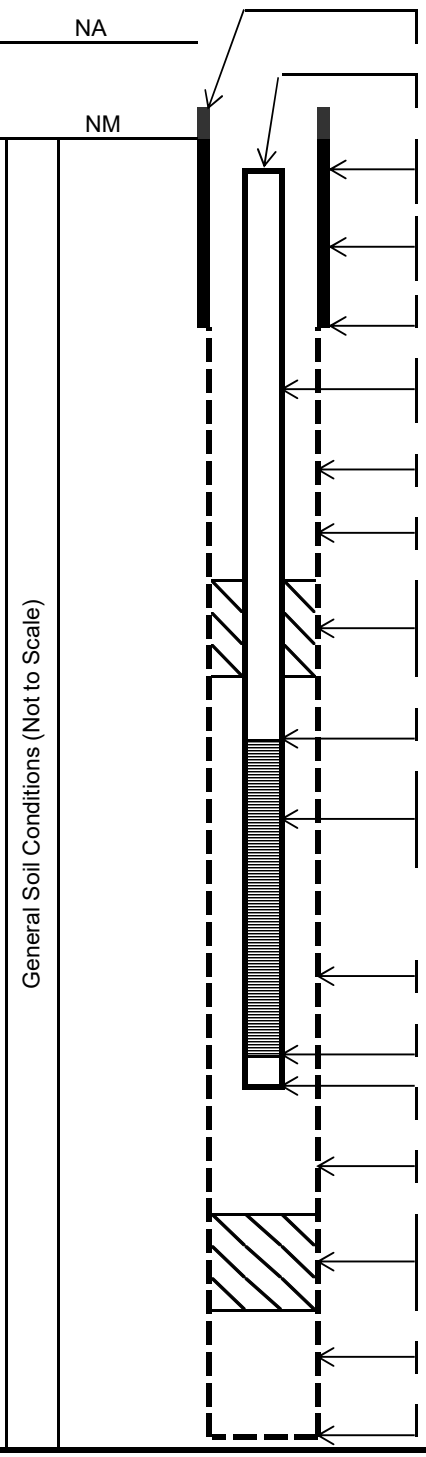
Groundwater Well Installation Log

MW301

Project	Tufts St	**GEI Proj. No.**	045163
City / Town	Somverville, MA	**Location**	Between Capuano School and Garden
Client	Unifirst		
Contractor	Northern Drill Service		
Driller	Jake	**GEI Rep.** N. Troccolo	**Install Date** 1/3/2025

Survey Datum: NA

Ground Elevation: NM



Length of Surface Casing above Ground	Flushmount
Dist. Top of Surf. Casing to Top of Riser Pipe	~4"
Type and Thickness of Seal around Surface Casing	Cement
ID of Surface Casing	3.5"
Type of Surface Casing	Roadbox
Depth Bottom of Surface Casing	~1.5'
ID and OD of Riser Pipe	2"/2.375"
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	Sand
Diameter of Borehole	4"
Depth Top of Seal	1'
Type of Seal	Bentonite
Depth Bottom of Seal	3'
Depth Top of Screened Section	5'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010" Slotted
ID and OD of Screened Section	2"/2.375"
Type of Filter Material	No. 2 Sand
Depth Bottom of Screened Section	15'
Depth Bottom of Silt Trap	15'
Depth Bottom of Filter Material	15'
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	NA
Bottom of Borehole	15'

Date	Time	Distance to ▼ below top of riser pipe
1/8/2025	12:00	13.34'

Notes:
NA = not applicable
NM = not measured

GEI Consultants

REV_03052026

BORING INFORMATION

LOCATION: 86 Franklin Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM: NAVD 88
TOTAL DEPTH (ft): 45.0
LOGGED BY: C. McCallum-Green
DATE START/END: 9/26/2025 - 9/30/2025
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Bierholm
RIG TYPE: Mobile B-57

BORING
B401 D

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Drive and Wash
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: 5 inch / NA
DRILL ROD O.D.: NM
CORE BARREL TYPE:
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
							FILL	(0-0.25'): ASPHALT (0.25-1'): ASPHALT BEDDING ~60% fine to medium sand, ~30% coarse gravel <1", ~10% nonplastic fines, medium brown, dry. (1-6'):SILTY SAND ~60% fine to medium sand, ~30% nonplastic fines, ~10% coarse gravel <1", tannish brown, dry, compact.
	5					PID=0.0ppm		
		S1	6 to 8	24/16	5-16-7-14	PID=0.2ppm	SANDY SILT	S1: SANDY SILT ~70% medium plastic fines, ~20% fine to medium sand, ~10% coarse gravel <1", tan, dry, compact.
		S2	8 to 10	24/24	8-14-17-19	PID=0.0ppm		S2: SANDY SILT ~65% medium plastic fines, ~25% fine to medium sand, ~10% coarse gravel <1", tan, dry, compact.
	10	S3	10 to 12	24/24	4-6-8-10	PID=0.0ppm		S3: SANDY SILT ~65% medium plastic fines, ~25% fine to medium sand, ~10% coarse gravel <1", tannish gray, dry, compact.
		S4	12 to 14	24/24	9-7-4-5	PID=0.0ppm		S4: SANDY SILT WITH GRAVEL ~60% medium plastic fines, ~25% fine to medium sand, ~15% coarse gravel <1", tannish gray, moist, compact.
	15	S5	14 to 16	24/24	2-1-3-3	PID=0.0 ppm		S5 (0-20"): SANDY SILT WITH GRAVEL ~75% medium plastic fines, ~25% fine to medium sand, gray, moist, compact. S5 (20-24"): SILTY SAND ~50% medium plastic fines, ~50% fine to medium sand, gray, moist.
		S6	16 to 18	24/24	1-1-2-3	PID=0.0ppm		S6 (0-18"): SANDY SILT ~65% medium plastic fines, ~25% fine to medium sand, ~10% coarse gravel <1", tannish gray, wet, compact. S6 (18-24"): SILTY SAND WITH GRAVEL ~60% fine to medium sand, ~20% nonplastic fines, ~20% coarse gravel <1", gray, wet, tight.
		S7	18 to 20	24/16	8-7-14-11	PID=0.3ppm		
							TILL	S7: GRAVEL WITH SILT AND SAND ~60% coarse gravel up to 1", ~25% fine to medium sand, ~15%

NOTES: Hole cleared to 6' using vacuum excavation prior to drilling.

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME MW400S.GPJ 3/5/26

REV_03052026

LOCATION: 86 Franklin Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM: NAVD 88
DATE START/END: 9/26/2025 - 9/30/2025
DRILLING COMPANY: Northern Drill Service, Inc.

BORING B401 D

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
								nonplastic fines, tannish gray, wet.
	25	S8	23 to 25	24/13	5-17-29-26	PID=0.2ppm		S8: SILTY SAND WITH GRAVEL ~60% fine to medium sand, ~20% nonplastic fines, ~20% coarse gravel up to 1", gray and tan, moist, tight.
	30	S9	29 to 29.5	6/6	8-100	PID=0.9ppm	TILL	S9: SILTY SAND WITH GRAVEL ~40% fine to medium sand, ~40% gravel up to 1", ~20% nonplastic fines, tan, wet, compact. Weathered rock in spoon tip.
	35	S10	34 to 36	24/12	25-33-61-89	PID=2.7ppm		S10: WEATHERED ROCK AND SILTY SAND ~60% weathered rock, ~40% rock dust/fine sand/ nonplastic fines, gray, moist, tight.
	40	S11	39 to 40	12/11	59-100	PID=3.0ppm		S11: WEATHERED ROCK AND SILTY SAND ~70% weathered rock, ~30% rock dust/fine sand/ nonplastic fines, gray, moist, tight.
	45	S12	44 to 44.5	6/6	100	PID=0.8ppm		S12: WEATHERED ROCK AND SILTY SAND ~70% weathered rock, ~30% rock dust/fine sand/ nonplastic fines, gray, moist, tight. Bottom of borehole at 45 feet. Completed as Monitoring Well (MW401D).

NOTES: Hole cleared to 6' using vacuum excavation prior to drilling.

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME MW400S.GPJ 3/5/26

REV_03052026

BORING INFORMATION

LOCATION: 86 Franklin Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM: NAVD 88
TOTAL DEPTH (ft): 20.0
LOGGED BY: C. McCallum-Green
DATE START/END: 9/26/2025 - 10/3/2025
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Bierholm
RIG TYPE: Mobile B-57

BORING

B401 S

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Drive and Wash
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: 5 inch / NA
DRILL ROD O.D.: NM
CORE BARREL TYPE:
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation
= Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer

S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger

Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter

NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
								See log MW401D for lithology.
	5							
	10							
	15							
	20							Bottom of borehole at 20 feet. Completed as Monitoring Well (MW401S).

NOTES: Hole cleared to 6' using vacuum excavation prior to drilling.

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME MW400S.GPJ 3/5/26

REV_03052026

BORING INFORMATION

LOCATION: Morton and Knowlton Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM: NAVD 88
TOTAL DEPTH (ft): 30.0
LOGGED BY: C. McCallum-Green
DATE START/END: 10/2/2025 - 10/6/2025
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Bierholm
RIG TYPE: Mobile B-57

BORING
B402

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Drive and Wash
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: 5 inch / NA
DRILL ROD O.D.: NM
CORE BARREL TYPE: Double tube core barrel with NX diamc
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
							FILL	(0-0.25'): ASPHALT (0.25-6'): NARROWLY GRADED SAND WITH GRAVEL ~70% fine to medium sand, ~20% coarse gravel up to 2", ~10% nonplastic fines, brown, dry, contains brick and cobbles.
	5					PID=0.0ppm		
		S1	6 to 8	24/12	14-50-40-68	PID=0.0ppm	TILL	S1: SILTY SAND WITH GRAVEL ~45% fine to medium sand, ~25% medium plastic fines, ~30% coarse gravel <1", brownish gray, moist.
		S2	8 to 8.5	6/6	100	PID=0.0ppm		S2: GRAVEL ~90% coarse gravel and weathered rock, ~5% fine to medium sand, ~5% nonplastic fines, gray, wet.
	10	S3	10 to 12	24/6	5-20-60-21	PID=0.0ppm		S3: GRAVEL ~90% coarse gravel and weathered rock, ~5% fine to medium sand, ~5% nonplastic fines, gray, wet.
		S4	12 to 12.1	1/0	100			S4: No Recovery.
	15							
		S5	19 to	2/0	100			S5: No Recovery.

NOTES: Hole cleared to 6' using vacuum excavation prior to drilling.

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME MW400S.GPJ 3/5/26

REV_03052026

LOCATION: Morton and Knowlton Street
GROUND SURFACE EL. (ft): NM **DATE START/END:** 10/2/2025 - 10/6/2025
VERTICAL DATUM: NAVD 88 **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING B402

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		C1	19.2 20 to 25	60/60	91	C1 CORE TIMES (min/ft): 1:11, 17:08, 11:54, 11:09, 8:05	BEDROCK	C1: CAMBRIDGE ARGILLITE Fine-grained, hard, thin bedding, gray, slightly weathered.
	25	C2	25 to 30	60/60	97	C2 CORE TIMES (min/ft): 13:40, 12:58, 11:18, 10:55, 11:27		C2: CAMBRIDGE ARGILLITE Fine-grained, hard, thin bedding, gray, slightly weathered, high angle fractures, calicte healed fractures.
	30							Bottom of borehole at 30 feet. Completed as Monitoring Well (MW402).
	35							
	40							
	45							

NOTES: Hole cleared to 6' using vacuum excavation prior to drilling.

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME MW400S.GPJ 3/5/26

REV_03052026

BORING INFORMATION

LOCATION: South 50 Tufts Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM: NAVD 88
TOTAL DEPTH (ft): 90.0
LOGGED BY: C. McCallum-Green
DATE START/END: 9/25/2025 - 10/14/2025
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Bierholm
RIG TYPE: Mobile B-57

BORING
B403
PAGE 1 of 4

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Drive and Wash
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: 5 inch / NA
DRILL ROD O.D.: NM
CORE BARREL TYPE: Double tube core barrel with NX diamc
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
						PID=0.0ppm		(0-6'): NARROWLY GRADED SAND WITH SILT AND GRAVEL ~70% fine to medium sand, ~20% coarse gravel up to 3", ~10% nonplastic fines, brown, dry.
	5	S1	6 to 8	24/4	2-8-8-6	PID=0.0ppm	FILL	S1: GRAVEL WITH SILT AND SAND ~50% coarse gravel <1", ~35% fine to medium sand, ~15% nonplastic fines, gray, dry, contains brick.
		S2	8 to 10	24/14	4-3-3-2	PID=0.0ppm		S2: SILTY SAND WITH GRAVEL ~65% fine to medium sand, ~20% nonplastic fines, ~15% coarse gravel <1", light brown, dry 0-12", moist 12-14".
	10	S3	10 to 12	24/6	5-3-2-4	PID=0.0ppm		S3: GRAVEL ~90% coarse gravel up to 1", ~5% fine to medium sand, ~5% nonplastic fines, wet, contains brick pieces.
		S4	12 to 14	24/14	1-1-1-1	PID=0.1ppm		S4: SILTY SAND WITH GRAVEL ~60% fine to medium sand, ~20% nonplastic fines, ~20% coarse gravel <1", light brown, wet.
		S5	14 to 16	24/5	6-6-3-2	PID=0.2ppm		S5: GRAVEL ~90% coarse gravel up to 1", ~5% fine to medium sand, ~5% nonplastic fines, wet, contains wood chips.
	15	S6	16 to 18	24/13	8-13-20-32	PID=6.6ppm		S6 (0-12"): SILTY SAND WITH GRAVEL ~45% fine to coarse sand, ~35% coarse gravel <1", ~20% nonplastic fines, gray ,wet, contains wood chips. S6 (12-24"): GRAVEL ~80% coarse gravel, ~10% fine to coarse sand, ~20% nonplastic fines, gray, wet.
		S7	19 to	6/6	100	PID=1.3ppm	TILL	S7: WEATHERED ROCK

NOTES: Hole cleared to 6' using vacuum excavation prior to drilling. 3" sample barrel used for 12-14' sample.

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME MW400S.GPJ 3/5/26

REV_03052026

LOCATION: South 50 Tufts Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM: NAVD 88
DATE START/END: 9/25/2025 - 10/14/2025
DRILLING COMPANY: Northern Drill Service, Inc.

BORING B403

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
			19.5					
		S8	24 to 24.1	1/0	100			S8: No Recovery.
	25	C1	25 to 30	60/60	99	C1 CORE TIMES (min/ft): 10:58, 5:44, 8:15, 7:45, 7:16	BEDROCK	C1: CAMBRIDGE ARGILLITE Fine-grained, hard, dark gray, thin bedding, slightly weathered, contains quartz and calcite intrusions, calcite healed fractures, high angle fracture at 54".
	30	C2	30 to 35	60/60	91	C2 CORE TIMES (min/ft): 5:33, 6:02, 7:00, 6:00, 7:15		C2: CAMBRIDGE ARGILLITE Fine-grained, hard, dark gray, thin bedding, slightly weathered, contains quartz and calcite intrusions, calcite healed fractures, high angle fractures.
	35	C3	35 to 40	60/60	82	C3 CORE TIMES (min/ft): 4:52, 5:31, 6:03, 6:02, 6:14		C3: CAMBRIDGE ARGILLITE Fine-grained, hard, dark gray, thin bedding, slightly weathered, contains quartz and calcite intrusions, calcite healed fractures, high angle fractures, heavily fractured 0-8".
	40	C4	40 to 45	60/60	85	C4 CORE TIMES (min/ft): 3:34, 4:25, 3:56, 4:20, 4:31		C4: CAMBRIDGE ARGILLITE Fine-grained, hard, dark gray, thin bedding, slightly weathered, contains quartz, calcite, and hematite intrusions, calcite healed fractures.
	45	C5	45 to 50	60/60	92	C5 CORE TIMES (min/ft): 3:56, 3:51, 3:55, 3:54, 3:47		C5: CAMBRIDGE ARGILLITE Fine-grained, hard, dark gray, thin bedding, slightly weathered, contains quartz, calcite, and hematite intrusions, calcite healed

NOTES: Hole cleared to 6' using vacuum excavation prior to drilling. 3" sample barrel used for 12-14' sample.

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

REV_03052026

LOCATION: South 50 Tufts Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM: NAVD 88
DATE START/END: 9/25/2025 - 10/14/2025
DRILLING COMPANY: Northern Drill Service, Inc.

BORING B403

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
							BEDROCK	fractures, high angle fractures, heavily fractured 39-45".
	50	C6	50 to 55	60/60	73	C6 CORE TIMES (min/ft): 5:11, 3:53, 4:07, 4:35, 4:54		C6: CAMBRIDGE ARGILLITE Fine-grained, hard, dark gray, thin bedding, slightly weathered, contains quartz, calcite, and hematite intrusions, calcite healed fractures, high angle fractures, heavily fractured 45-60".
	55	C7	55 to 60	60/60	28	C7 CORE TIMES (min/ft): 4:44, 4:21, 4:57. 6:14, 9:16		C7: CAMBRIDGE ARGILLITE Fine-grained, hard, dark gray, thin bedding, slightly weathered, contains quartz, calcite, and hematite intrusions, calcite healed fractures, high angle fractures, heavily fractured 0-15" and 24-60".
	60	C8	60 to 65	60/60	77	C8 CORE TIMES (min/ft): 3:40, 4:40, 3:24, 5:00, 3:58		C8: CAMBRIDGE ARGILLITE Fine-grained, hard, dark gray, thin bedding, slightly weathered, contains quartz and calcite intrusions, calcite healed fractures, high angle fractures, heavily fractured 54-60".
	65	C9	65 to 70	60/60	86	C9 CORE TIMES (min/ft): 4:46, 2:54, 3:33, 4:40, 3:40		C9: CAMBRIDGE ARGILLITE Fine-grained, hard, dark gray, thin bedding, slightly weathered, contains quartz and calcite intrusions, calcite healed fractures, high angle fractures.
	70	C10	70 to 75	60/60	50	C10 CORE TIMES (min/ft): 5:24, 3:47, 3:57, 3:51, 3:59		C10: CAMBRIDGE ARGILLITE Fine-grained, hard, dark gray, thin bedding, slightly weathered, contains quartz and calcite intrusions, calcite healed fractures, high angle fractures, heavily fractured 36-60".

NOTES: Hole cleared to 6' using vacuum excavation prior to drilling. 3" sample barrel used for 12-14' sample.

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME MW400S.GPJ 3/5/26

REV_03052026

LOCATION: South 50 Tufts Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM: NAVD 88
DATE START/END: 9/25/2025 - 10/14/2025
DRILLING COMPANY: Northern Drill Service, Inc.

BORING B403

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	75	C11	75 to 80	60/60	100	C11 CORE TIMES (min/ft): 3:00, 2:10, 2:48, 2:31, 2:30	BEDROCK	C11: CAMBRIDGE ARGILLITE Fine-grained, hard, dark gray, thin bedding, slightly weathered, contains quartz and calcite intrusions, calcite healed fractures.
	80	C12	80 to 85	60/60	100	C12 CORE TIMES (min/ft): 3:16, 3:26, 3:38, 2:39, 3:20		C12: CAMBRIDGE ARGILLITE Fine-grained, hard, dark gray, thin bedding, slightly weathered, contains quartz and calcite intrusions, calcite healed fractures, high angle fractures.
	85	C13	85 to 90	60/60	100	C13 CORE TIMES (min/ft): 2:06, 2:41, 2:19, 2:39, 2:27		C13: CAMBRIDGE ARGILLITE Fine-grained, hard, dark gray, thin bedding, slightly weathered, contains quartz and calcite intrusions, calcite healed fractures, high angle fractures, heavily fractured 48-60".
	90							Bottom of borehole at 90 feet. Completed as Monitoring Well (MW403).
	95							

NOTES: Hole cleared to 6' using vacuum excavation prior to drilling. 3" sample barrel used for 12-14' sample.

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME MW400S.GPJ 3/5/26

REV_03052026

BORING INFORMATION

LOCATION: 50 Tufts Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM: NAVD 88
TOTAL DEPTH (ft): 90.0
LOGGED BY: C. McCallum-Green
DATE START/END: 9/26/2025 - 10/22/2025
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Bierholm
RIG TYPE: Mobile B-57

BORING
B404

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Drive and Wash
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: 5 inch / NA
DRILL ROD O.D.: NM
CORE BARREL TYPE: Double tube core barrel with NX diamond
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
								(0-0.33'): ASPHALT
							FILL	(0.33-1.5'): NARROWLY GRADED SAND WITH GRAVEL ~75% fine to medium sand, ~15% gravel up to 3", ~10% nonplastic fines, dry, brown. (1.5-6'): Pieces of slate and concrete
	5							
		S1	6 to 8	24/17	16-38-77-56	PID=6.0ppm		S1: NARROWLY GRADED SAND WITH GRAVEL ~50% fine to medium sand, ~40% gravel up to 1", ~10% nonplastic fines, dry 0-12", moist 12-17", gray.
		S2	8 to 9.3	16/14	39-93-100	PID=4.7ppm		S2: NARROWLY GRADED SAND WITH SILT AND GRAVEL ~45% fine to medium sand, ~40% coarse gravel and weathered rock <1", ~15% nonplastic fines, moist, grayish brown.
	10	S3	10 to 10.3	3/3	100	PID=0.8ppm		S3: GRAVEL WITH SILT AND SAND ~60% coarse gravel and weathered rock <1", ~25% fine to medium sand, ~15% nonplastic fines, wet, brown.
		S4	12 to 12	0/0	100			S4: No Recovery
	15	C1	14 to 19	60/60	0	C1 CORE TIMES (min/ft): 9:30, 9:19, 9:00, 11:23, 12:32	BEDROCK	C1: SANDSTONE Fine-grained, hard, gray, very weathered, contains iron and calcite on fractures, calcite healed fractures, heavily fractured 0-60".
		C2	19 to	60/60	73	C2 CORE TIMES (min/ft): 3:03, 5:15, 4:54, 4:51, 5:32		C2: GRAY ARGILLITE Fine-grained, hard, gray, very weathered, thin bedding, contains

NOTES: Hole cleared to 6' using vacuum excavation prior to drilling.

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME MW400S.GPJ 3/12/26

REV_03052026

LOCATION: 50 Tufts Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM: NAVD 88
DATE START/END: 9/26/2025 - 10/22/2025
DRILLING COMPANY: Northern Drill Service, Inc.

BORING B404

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
			24					iron and calcite on fractures, calctie healed fractures, high-angle fractures, heavily fractured 0-11".
	25	C3	24 to 29	60/60	65	C3 CORE TIMES (min/ft): 15:22, 9:49, 7:53, 6:44, 5:52		C3: GRAY ARGILLITE Fine-grained, hard, gray, very weathered, thin bedding, contains iron on fractures, calctie healed fractures, high-angle fractures, heavily fractured 0-18".
	30	C4	29 to 34	60/60	85	C4 CORE TIMES (min/ft): 4:59, 4:41, 5:12, 3:52, 7:22	BEDROCK	C4: GRAY ARGILLITE Fine-grained, hard, gray, very weathered, thin bedding, contains iron on fractures, calctie healed fractures, contains quartz and hematite intrusions, high-angle fractures.
	35	C5	34 to 39	60/60	75	C5 CORE TIMES (min/ft): 4:38, 5:09, 5:28, 4:23, 5:19		C5: GRAY ARGILLITE Fine-grained, hard, gray, very weathered, thin bedding, contains iron on fractures, calctie healed fractures, contains quartz and hematite intrusions, high-angle fractures, vertical fracture 6-20".
	40	C6	39 to 44	60/60	85	C6 CORE TIMES (min/ft): 4:58, 4:57, 4:49, 5:31, 5:24		C6: GRAY ARGILLITE Fine-grained, hard, gray, weathered, thin bedding, contains iron on fractures, contains quartz intrusions, calctie healed fractures, high-angle fractures, vertical fracture 31-35".
	45	C7	44 to 49	60/60	93	C7 CORE TIMES (min/ft): 3:50, 4:51, 4:12, 4:17, 4:26		C7 (0-12"): GRAY ARGILLITE Fine-grained, hard, gray, weathered, thin bedding, contains quartz intrusions, calcite healed fractures. C7 (12-60"): SANDSTONE Fine-grained, hard, light gray, slightly weathered, very thin

NOTES: Hole cleared to 6' using vacuum excavation prior to drilling.

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

REV_03052026

LOCATION: 50 Tufts Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM: NAVD 88
DATE START/END: 9/26/2025 - 10/22/2025
DRILLING COMPANY: Northern Drill Service, Inc.

BORING B404

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
								bedding, contains hematite and pyrite.
	50	C8	49 to 54	60/60	77	C8 CORE TIMES (min/ft): 5:18, 5:42, 5:28, 4:55, 4:52		C8: SANDSTONE Fine-grained, hard, light gray, slightly weathered, very thin bedding, contains quartz, hematite, and pyrite, calcite healed fractures, high angle fractures, heavily fractured, vertical fracture 48-60".
	55	C9	54 to 59	60/60	62	C9 CORE TIMES (min/ft): 4:54, 5:10, 4:57, 3:35, 4:39		C9: SANDSTONE Fine-grained, hard, light gray, very weathered, very thin bedding, contains quartz, hematite and pyrite, calcite healed fractures, high angle fractures, heavily fractured 24-60".
	60	C10	59 to 64	60/60	88	C10 CORE TIMES (min/ft): 3:48, 4:14, 3:54, 3:52, 4:27	BEDROCK	C10: SANDSTONE Fine-grained, hard, light gray, slightly weathered, very thin bedding, contains quartz and hematite, calcite healed fractures, heavilly fractured, vertical fracture 47-60"'. Argillite intrusion 2-7".
	65	C11	64 to 69	60/60	83	C11 CORE TIMES (min/ft): 4:02, 3:56, 3:21, 3:44, 4:05		C11: SANDSTONE Fine-grained, hard, light gray, slightly weathered, very thin bedding, contains quartz, hematite and pyrite, calcite healed fractures, vertical fracture 0-14".
	70	C12	69 to 74	60/60	90	C12 CORE TIMES (min/ft): 4:35, 4:38, 4:15, 4:48, 4:33		C12: SANDSTONE Fine-grained, hard, light gray, slightly weathered, very thin bedding, contains quartz, hematite and pyrite, calcite healed fractures, iron on fractures.

NOTES: Hole cleared to 6' using vacuum excavation prior to drilling.

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

REV_03052026

LOCATION: 50 Tufts Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM: NAVD 88
DATE START/END: 9/26/2025 - 10/22/2025
DRILLING COMPANY: Northern Drill Service, Inc.

BORING B404

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	75	C13	74 to 79	60/60	90	C13 CORE TIMES (min/ft): 1:37, 1:43, 2:00 1:33, 1:37	BEDROCK	C13: SANDSTONE Fine-grained, hard, light gray, slightly weathered, very thin bedding, contains quartz intrusions, calcite healed fractures.
	80	C14	79 to 84.8	70/70	90	C14 CORE TIMES (min/ft): 1:09, 1:59, 1:51, 1:53, 1:52		C14: SANDSTONE Fine-grained, hard, light gray, slightly weathered, very thin bedding, contains quartz, hematite and pyrite, calcite healed fractures, iron on fractures.
	85	C15	84.8 to 89.9	61/61	65	C15: CORE TIMES (min/ft): 3:06, 3:55, 5:48, 4:13, 4:55		C15: SANDSTONE Fine-grained, hard, light gray, slightly weathered, very thin bedding, contains quartz, hematite and pyrite, calcite healed fractures, high angle fractures.
	90							Bottom of borehole at 90 feet. Completed as Monitoring Well (MW404).
	95							

NOTES: Hole cleared to 6' using vacuum excavation prior to drilling.

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

REV_03052026

BORING INFORMATION

LOCATION: New Washinton Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM: NAVD 88
TOTAL DEPTH (ft): 20.0
LOGGED BY: C. McCallum-Green
DATE START/END: 10/2/2025 - 10/23/2025
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: S. Perry
RIG TYPE: Geoprobe 7822DT

BORING B405

PAGE 1 of 1

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: 3 inch / NA
DRILL ROD O.D.: NM
CORE BARREL TYPE:
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
							FILL	(0-0.33') ASPHALT (0.33-5'): NARROWLY GRADED SAND WITH SILT AND GRAVEL ~60% fine to medium sand, ~25% coarse gravel up to 2", ~15% nonplastic fines, brown, dry, contains brick, glass, and cobbles.
	5	DP1	5 to 10	60/43		PID=106.8ppm	SILTY SAND	DP1: SANDY SILT WITH GRAVEL ~35% medium plastic fines, ~35% fine to coarse sand, ~30% coarse gravel <1", gray, tight, wet, odor and staining 0-12".
	10	DP2	10 to 15	60/60		PID=0.0ppm		DP2 (0-18"): SANDY SILT ~50% fine to medium sand, ~40% low plastic fines, ~10% coarse gravel <1", tanninsh gray, wet, tight. DP2 (18-28"): WIDELY GRADED SAND ~90% fine to coarse sand, ~10% coarse gravel <1", brown, wet. (28-60"): SANDY SILT ~50% fine to medium sand, ~40% low plastic fines, ~10% coarse gravel <1", tanninsh gray, wet, tight.
	15	DP3	15 to 18	36/36		PID=0.0ppm		DP3 (15-18'): SANDY SILT ~45% fine to medium sand, ~40% low plastic fines, ~15% coarse gravel <1", tanninsh gray, wet, tight.
		DP4	18 to 20	24/21		PID=0.1ppm		DP4 (18-20'): SANDY SILT ~45% fine to medium sand, ~40% low plastic fines, ~15% coarse gravel <1", tanninsh gray, wet, tight.
	20							Bottom of borehole at 20 feet. Completed as Monitoring Well (MW405).

NOTES: Hole cleared to 5' using vacuum excavation prior to drilling.

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME MW400S.GPJ 3/5/26

REV_03052026

BORING INFORMATION

LOCATION: Joy Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM: NAVD 88
TOTAL DEPTH (ft): 14.0
LOGGED BY: C. McCallum-Green
DATE START/END: 10/2/2025 - 10/24/2025
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: S. Perry
RIG TYPE: Geoprobe 7822DT

BORING
B406
PAGE 1 of 1

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: 3 inch / NA
DRILL ROD O.D.: NM
CORE BARREL TYPE:
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
							FILL	(0-0.25'): ASPHALT (0.25-5'): NARROWLY GRADED SAND WITH SILT AND GRAVEL ~65% fine to medium sand, ~25% coarse gravel up to 3", ~10% nonplastic fines, brown, dry.
	5	DP1	5 to 10	60/60		PID=1.1ppm	SILTY SAND	DP1: SILTY SAND WITH GRAVEL ~55% fine to medium sand, ~30% coarse gravel up to 1", ~15% nonplastic fines, gray to light tan, dry, contains weathered rock.
	10	DP2	10 to 14	48/48		PID=0.1ppm		DP2: SILTY SAND WITH GRAVEL ~50% fine to medium sand, ~30% coarse gravel up to 1", ~20% nonplastic fines, gray to brown, wet 12-48", contains weathered rock, tight.
	15							Refusal at 14 feet. Bottom of borehole at 14 feet. Completed as Monitoring Well (MW406).

NOTES: Hole cleared to 5' using vacuum excavation prior to drilling.

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME MW400S.GPJ 3/5/26

REV_03052026

BORING INFORMATION

LOCATION: 31 Tufts Street
GROUND SURFACE EL. (ft): NM
VERTICAL DATUM: NAVD 88
TOTAL DEPTH (ft): 18.0
LOGGED BY: C. McCallum-Green
DATE START/END: 12/30/2025 - 12/30/2025
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: J. Flemming
RIG TYPE: Geoprobe 6620DT

BORING
B407
PAGE 1 of 1

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: 4 inch / NA
DRILL ROD O.D.: NM
CORE BARREL TYPE:
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
						PID=0.2ppm	FILL	(0-0.25): Road Ballast (0.25-5'): NARROWLY GRADED SAND WITH SILT AND GRAVEL ~60% fine to coarse sand, ~25% coarse gravel up to 3", ~15% nonplastic fines, light to dark brown, dry.
	5	DP1	5 to 10	60/55		PID=0.0ppm		DP1: NARROWLY GRADED SAND WITH SILT AND GRAVEL ~60% fine to coarse sand, ~25% coarse gravel less than 1", ~15% nonplastic fines, light to dark brown, dry 0-48", moist 48-55", contains asphalt and cement pieces.
	10	DP2	10 to 15	60/60		PID=0.1ppm	SILTY SAND	DP2: NARROWLY GRADED SAND WITH SILT AND GRAVEL ~65% fine to medium sand, ~20% coarse gravel less than 1", ~15% nonplastic fines, light to dark brown with red seams, wet 12-60".
	15	DP3	15 to 18	36/36		PID=0.1ppm		DP3: SILTY SAND WITH GRAVEL ~60% fine to medium sand, ~20% coarse gravel less than 1", ~20% nonplastic fines, light brown, wet.
								Refusal at 18 feet. Bottom of borehole at 18 feet. Completed as Monitoring Well (MW407).

NOTES: Hole cleared to 5' using vacuum excavation prior to drilling.

PROJECT NAME: 50 Tufts Street
CITY/STATE: Somerville, Massachusetts
GEI PROJECT NUMBER: 045163

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME MW400S.GPJ 3/5/26

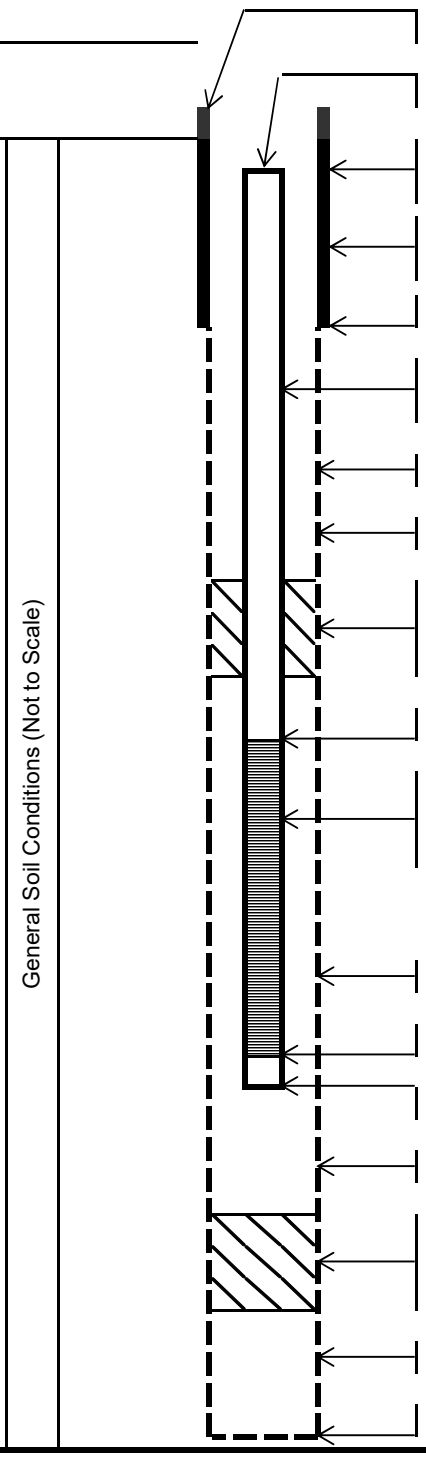
Groundwater Well Installation Log

MW401D

Project	50 Tufts Street	**GEI Proj. No.**	45163
City / Town	Somerville, MA	**Location**	86 Franklin Street
Client	Unifirst		
Contractor	Northern Drill Service		
Driller	C. Bierholm **GEI Rep.** C. McCallum-Green	**Install Date**	10/3/2025

Survey Datum:

Ground Elevation:



Length of Surface Casing above Ground	0"
Dist. Top of Surf. Casing to Top of Riser Pipe	2"
Type and Thickness of Seal around Surface Casing	Cement
ID of Surface Casing	4"
Type of Surface Casing	Roadbox
Depth Bottom of Surface Casing	1'
ID and OD of Riser Pipe	2"/2.25"
Type of Riser Pipe	Schedule 40 PVC
Type of Backfill around Riser Pipe	Cement Grout
Diameter of Borehole	5"
Depth Top of Seal	27'
Type of Seal	Bentonite Chips
Depth Bottom of Seal	32'
Depth Top of Screened Section	34'
Type of Screen	Schedule 40 PVC
Description of Screen Openings	0.01"
ID and OD of Screened Section	2"/2.25"
Type of Filter Material	Silica Sand
Depth Bottom of Screened Section	44'
Depth Bottom of Silt Trap	44.2'
Depth Bottom of Filter Material	44.2'
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	NA
Bottom of Borehole	44.2'

Date	Time	Distance to ▼ below top of riser pipe
10/28/2025	9:30	11'
10/3/2025	12:00	12.5'

Notes:

GEI Consultants

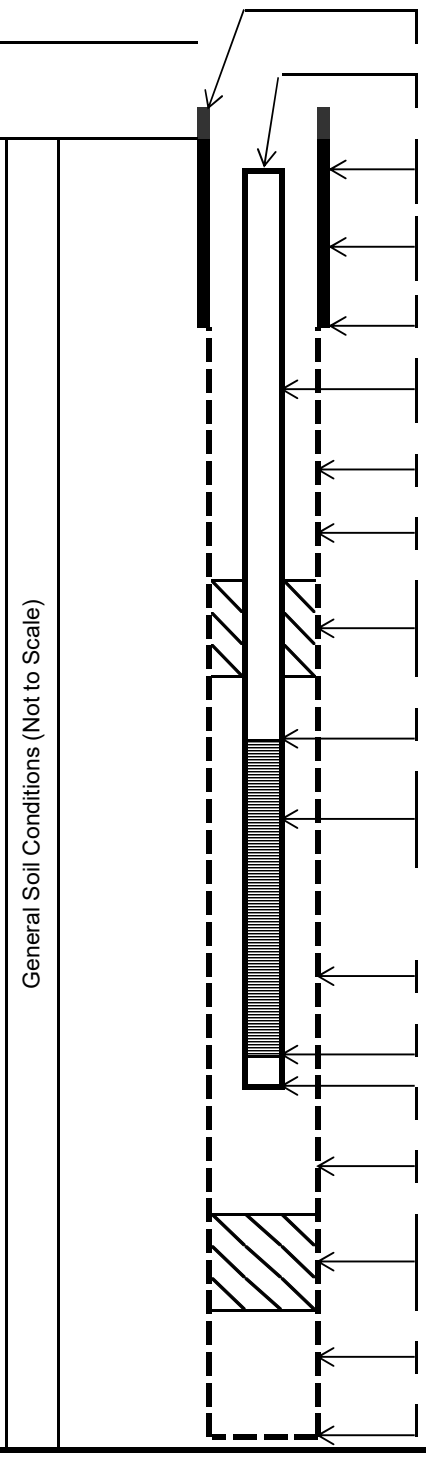
Groundwater Well Installation Log

MW401S

Project	50 Tufts Street	**GEI Proj. No.**	45163
City / Town	Somerville, MA	**Location**	86 Franklin Street
Client	Unifirst		
Contractor	Northern Drill Service		
Driller	C. Bierholm **GEI Rep.** C. McCallum-Green	**Install Date**	10/3/2025

Survey Datum:

Ground Elevation:



Length of Surface Casing above Ground	0"
Dist. Top of Surf. Casing to Top of Riser Pipe	3"
Type and Thickness of Seal around Surface Casing	Cement
ID of Surface Casing	4"
Type of Surface Casing	Roadbox
Depth Bottom of Surface Casing	1'
ID and OD of Riser Pipe	2"/2.25"
Type of Riser Pipe	Schedule 40 PVC
Type of Backfill around Riser Pipe	Silica Sand/Collapse
Diameter of Borehole	4"
Depth Top of Seal	6'
Type of Seal	Bentonite Chips
Depth Bottom of Seal	8'
Depth Top of Screened Section	10'
Type of Screen	Schedule 40 PVC
Description of Screen Openings	0.01"
ID and OD of Screened Section	2"/2.25"
Type of Filter Material	Silica Sand
Depth Bottom of Screened Section	20'
Depth Bottom of Silt Trap	20.2'
Depth Bottom of Filter Material	20.2'
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	NA
Bottom of Borehole	20.2'

Date	Time	Distance to ▼ below top of riser pipe
10/28/2025	11:00	11.15'

Notes:

GEI Consultants

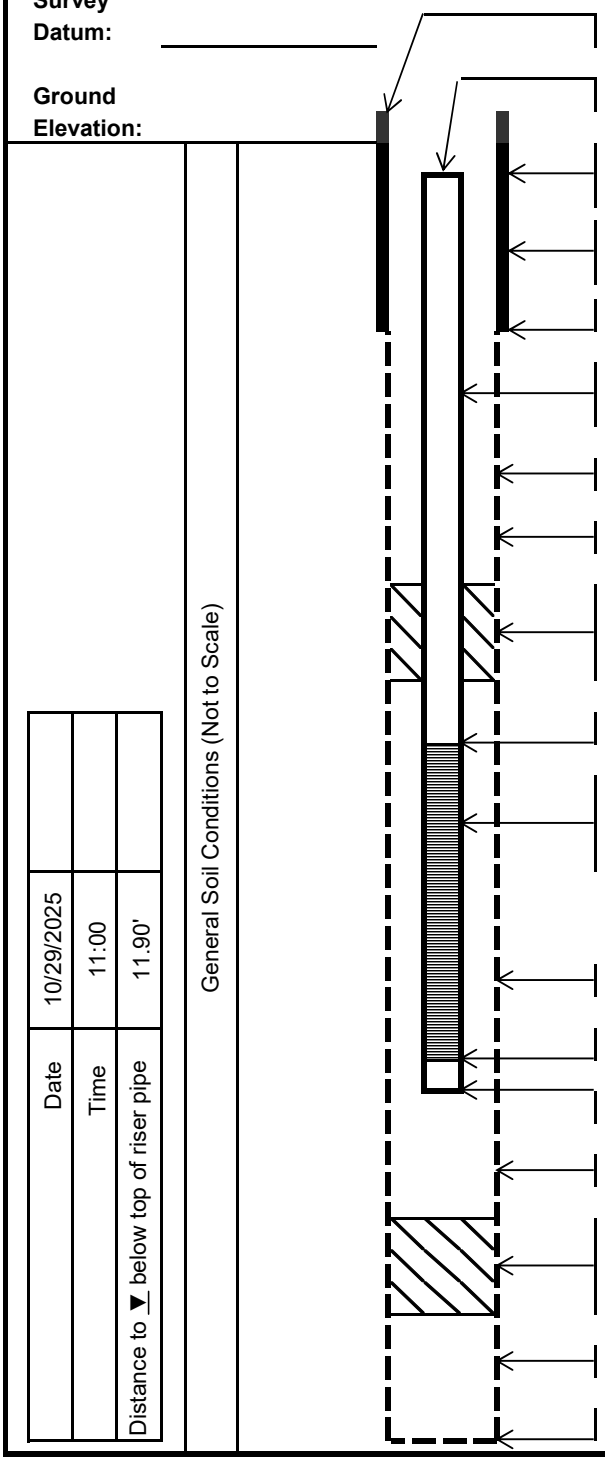
Groundwater Well Installation Log

MW402

Project	50 Tufts Street	**GEI Proj. No.**	45163
City / Town	Somerville, MA	**Location**	Knowlton x Morton
Client	Unifirst		
Contractor	Northern Drill Service		
Driller	C. Bierholm **GEI Rep.** C. McCallum-Green	**Install Date**	10/8/2025

Survey Datum:

Ground Elevation:



Date	Time	Distance to ▼ below top of riser pipe
10/29/2025	11:00	11.90'

Length of Surface Casing above Ground	0"
Dist. Top of Surf. Casing to Top of Riser Pipe	2"
Type and Thickness of Seal around Surface Casing	Cement
ID of Surface Casing	4"
Type of Surface Casing	Roadbox
Depth Bottom of Surface Casing	1'
ID and OD of Riser Pipe	2"/2.25"
Type of Riser Pipe	Schedule 40 PVC
Type of Backfill around Riser Pipe	Cement Grout and Bentonite Chips
Diameter of Borehole	5"
Depth Top of Seal	15.5'
Type of Seal	Bentonite Chips
Depth Bottom of Seal	18'
Depth Top of Screened Section	20'
Type of Screen	Schedule 40 PVC
Description of Screen Openings	0.01"
ID and OD of Screened Section	2"/2.25"
Type of Filter Material	Silica Sand
Depth Bottom of Screened Section	30'
Depth Bottom of Silt Trap	30.2'
Depth Bottom of Filter Material	30.7'
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	Silica Sand
Bottom of Borehole	30.7'

Notes: Driller switched grout method from cement to bentonite chips at ~7' because cement was lost to hole at the soil/weathered rock interface. Driller completed bentonite chips to 1'.

GEI Consultants

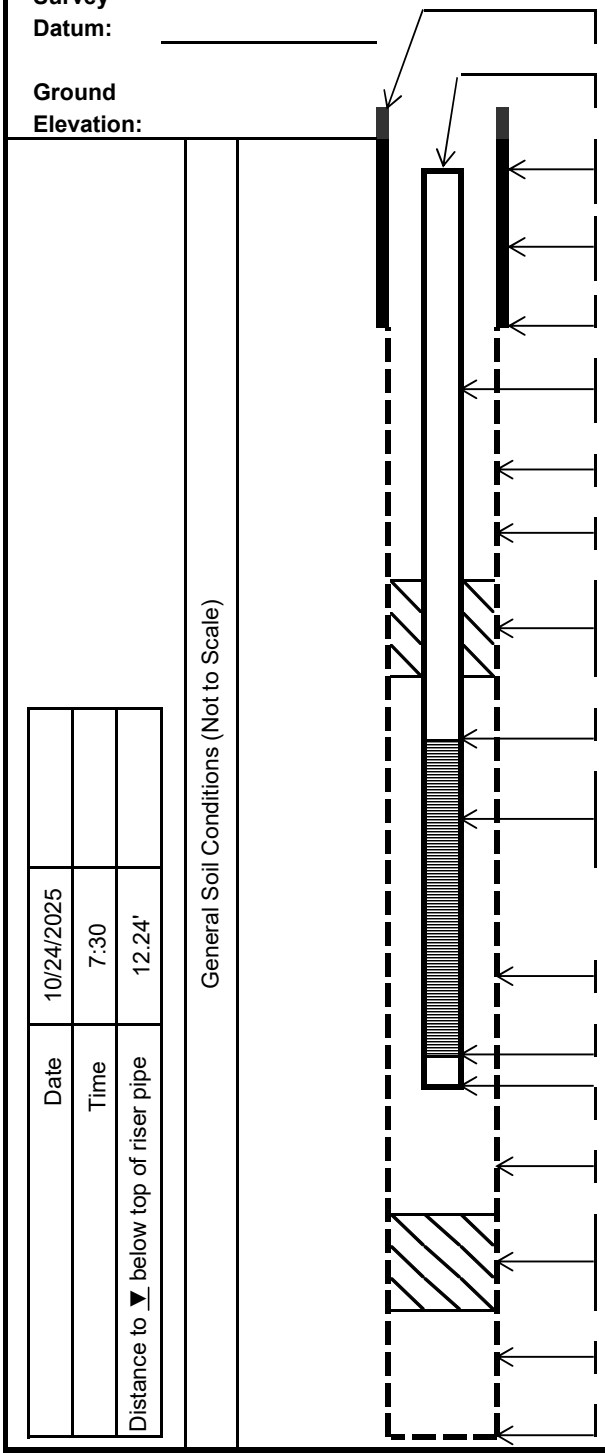
Groundwater Well Installation Log

MW403

Project	50 Tufts Street	**GEI Proj. No.**	45163
City / Town	Somerville, MA	**Location**	South 50 Tufts Street
Client	Unifirst		
Contractor	Northern Drill Service		
Driller	C. Bierholm **GEI Rep.** C. McCallum-Green	**Install Date**	10/17/2025

Survey Datum:

Ground Elevation:



Length of Surface Casing above Ground	0"
Dist. Top of Surf. Casing to Top of Riser Pipe	5"
Type and Thickness of Seal around Surface Casing	Cement
ID of Surface Casing	4"
Type of Surface Casing	Roadbox
Depth Bottom of Surface Casing	1'
ID and OD of Riser Pipe	2"/2.25"
Type of Riser Pipe	Schedule 40 PVC
Type of Backfill around Riser Pipe	Cement Grout
Diameter of Borehole	5"
Depth Top of Seal	72'
Type of Seal	Bentonite Chips
Depth Bottom of Seal	78'
Depth Top of Screened Section	80'
Type of Screen	Schedule 40 PVC
Description of Screen Openings	0.01"
ID and OD of Screened Section	2"/2.25"
Type of Filter Material	Silica Sand
Depth Bottom of Screened Section	90'
Depth Bottom of Silt Trap	90.2'
Depth Bottom of Filter Material	90.8'
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	Silica Sand
Bottom of Borehole	90.8'

Notes:

GEI Consultants

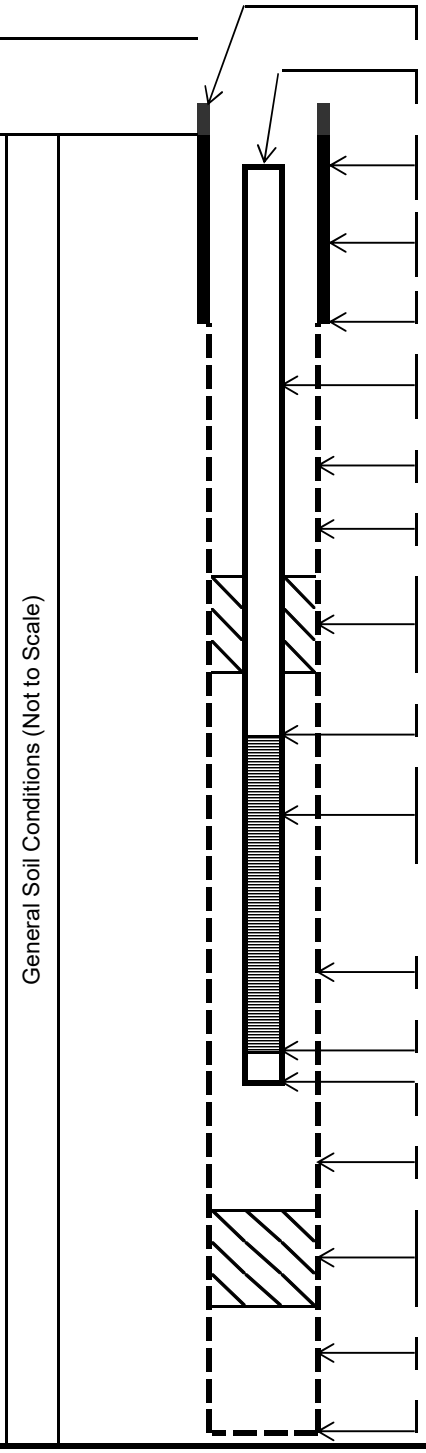
Groundwater Well Installation Log

MW404

Project	50 Tufts Street	**GEI Proj. No.**	45163
City / Town	Somerville, MA	**Location**	50 Tufts Street
Client	Unifirst		
Contractor	Northern Drill Service		
Driller	C. Bierholm **GEI Rep.** C. McCallum-Green	**Install Date**	10/24/2025

Survey Datum:

Ground Elevation:



Date	Time	Distance to ▼ below top of riser pipe
10/29/2025	10:00	13.2'

Length of Surface Casing above Ground	0"
Dist. Top of Surf. Casing to Top of Riser Pipe	3"
Type and Thickness of Seal around Surface Casing	Cement
ID of Surface Casing	4"
Type of Surface Casing	Roadbox
Depth Bottom of Surface Casing	1'
ID and OD of Riser Pipe	2"/2.25"
Type of Riser Pipe	Schedule 40 PVC
Type of Backfill around Riser Pipe	Cement Grout
Diameter of Borehole	5"
Depth Top of Seal	65'
Type of Seal	Bentonite Chips
Depth Bottom of Seal	70'
Depth Top of Screened Section	72.5'
Type of Screen	Schedule 40 PVC
Description of Screen Openings	0.01"
ID and OD of Screened Section	2"/2.25"
Type of Filter Material	Silica Sand
Depth Bottom of Screened Section	82.5'
Depth Bottom of Silt Trap	82.7'
Depth Bottom of Filter Material	83.5
Depth Top of Seal	83.5
Type of Seal	Bentonite Chips
Depth Bottom of Seal	87.5'
Type of Backfill below Filter Material	Collapse
Bottom of Borehole	90'

Notes:

GEI Consultants

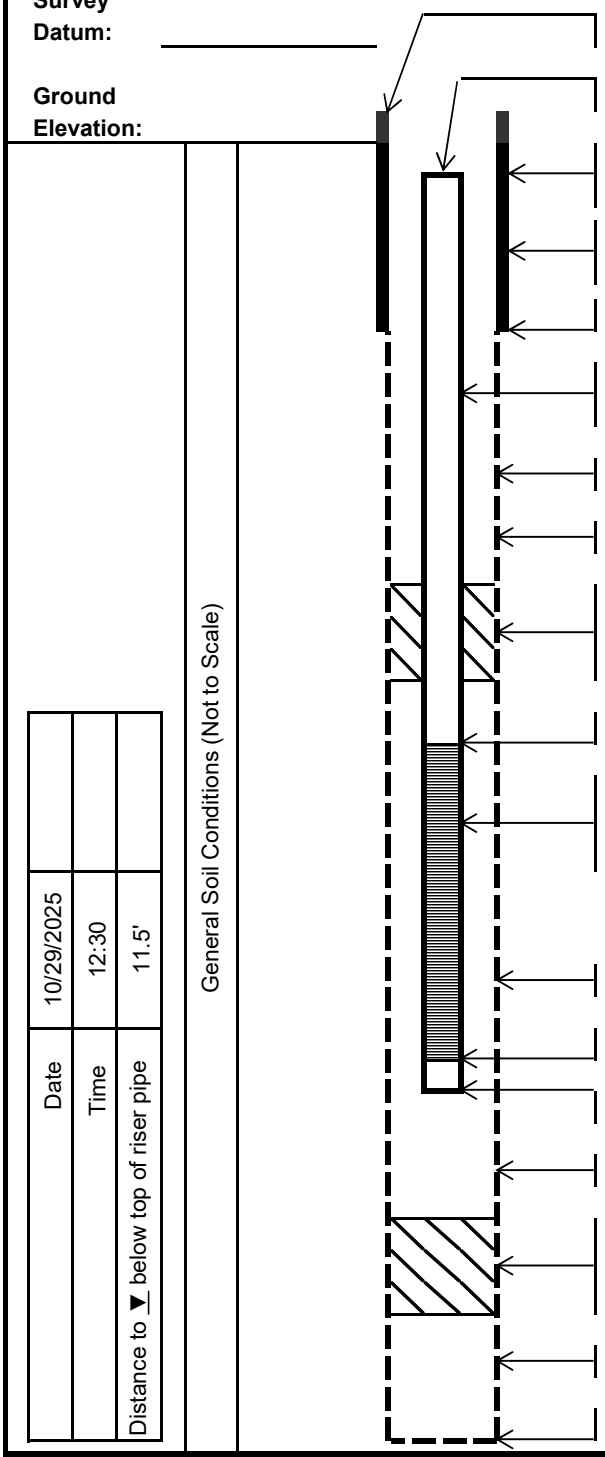
Groundwater Well Installation Log

MW405

Project	50 Tufts Street	**GEI Proj. No.**	45163
City / Town	Somerville, MA	**Location**	New Washington St.
Client	Unifirst		
Contractor	Northern Drill Service		
Driller	S. Perry **GEI Rep.** C. McCallum-Green	**Install Date**	10/23/2025

Survey Datum:

Ground Elevation:



Length of Surface Casing above Ground	0"
Dist. Top of Surf. Casing to Top of Riser Pipe	2"
Type and Thickness of Seal around Surface Casing	Cement
ID of Surface Casing	4"
Type of Surface Casing	Roadbox
Depth Bottom of Surface Casing	1'
ID and OD of Riser Pipe	2"/2.25"
Type of Riser Pipe	Schedule 40 PVC
Type of Backfill around Riser Pipe	Silica Sand
Diameter of Borehole	3"
Depth Top of Seal	5'
Type of Seal	Bentonite Chips
Depth Bottom of Seal	7'
Depth Top of Screened Section	8'
Type of Screen	Schedule 40 PVC
Description of Screen Openings	0.01"
ID and OD of Screened Section	2"/2.25"
Type of Filter Material	Silica Sand
Depth Bottom of Screened Section	18'
Depth Bottom of Silt Trap	18.2'
Depth Bottom of Filter Material	20'
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	Silica Sand
Bottom of Borehole	20'

Notes:

GEI Consultants

M:\Drafting\Office\Forms\Well Install Log Blank Form

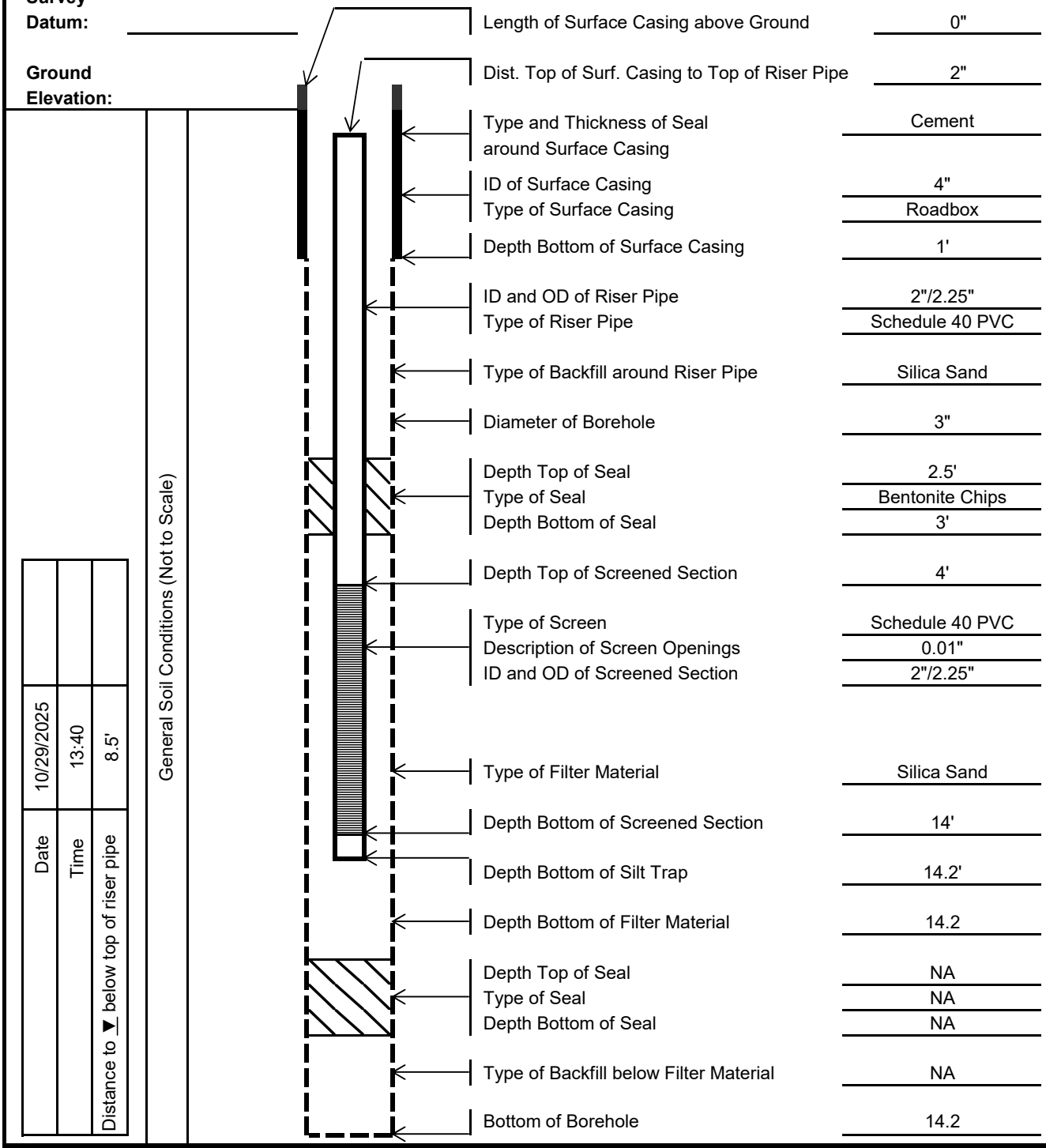
Groundwater Well Installation Log

MW406

Project	50 Tufts Street	**GEI Proj. No.**	45163
City / Town	Somerville, MA	**Location**	Joy Street
Client	Unifirst		
Contractor	Northern Drill Service		
Driller	S. Perry **GEI Rep.** C. McCallum-Green	**Install Date**	10/24/2025

Survey Datum:

Ground Elevation:


General Soil Conditions (Not to Scale)
Length of Surface Casing above Ground 0"
Dist. Top of Surf. Casing to Top of Riser Pipe 2"
Type and Thickness of Seal around Surface Casing Cement
ID of Surface Casing 4"
Type of Surface Casing Roadbox
Depth Bottom of Surface Casing 1'
ID and OD of Riser Pipe 2"/2.25"
Type of Riser Pipe Schedule 40 PVC
Type of Backfill around Riser Pipe Silica Sand
Diameter of Borehole 3"
Depth Top of Seal 2.5'
Type of Seal Bentonite Chips
Depth Bottom of Seal 3'
Depth Top of Screened Section 4'
Type of Screen Schedule 40 PVC
Description of Screen Openings 0.01"
ID and OD of Screened Section 2"/2.25"
Type of Filter Material Silica Sand
Depth Bottom of Screened Section 14'
Depth Bottom of Silt Trap 14.2'
Depth Bottom of Filter Material 14.2
Depth Top of Seal NA
Type of Seal NA
Depth Bottom of Seal NA
Type of Backfill below Filter Material NA
Bottom of Borehole 14.2
Date 10/29/2025
Time 13:40
Distance to ▼ below top of riser pipe 8.5'

Notes:

GEI Consultants

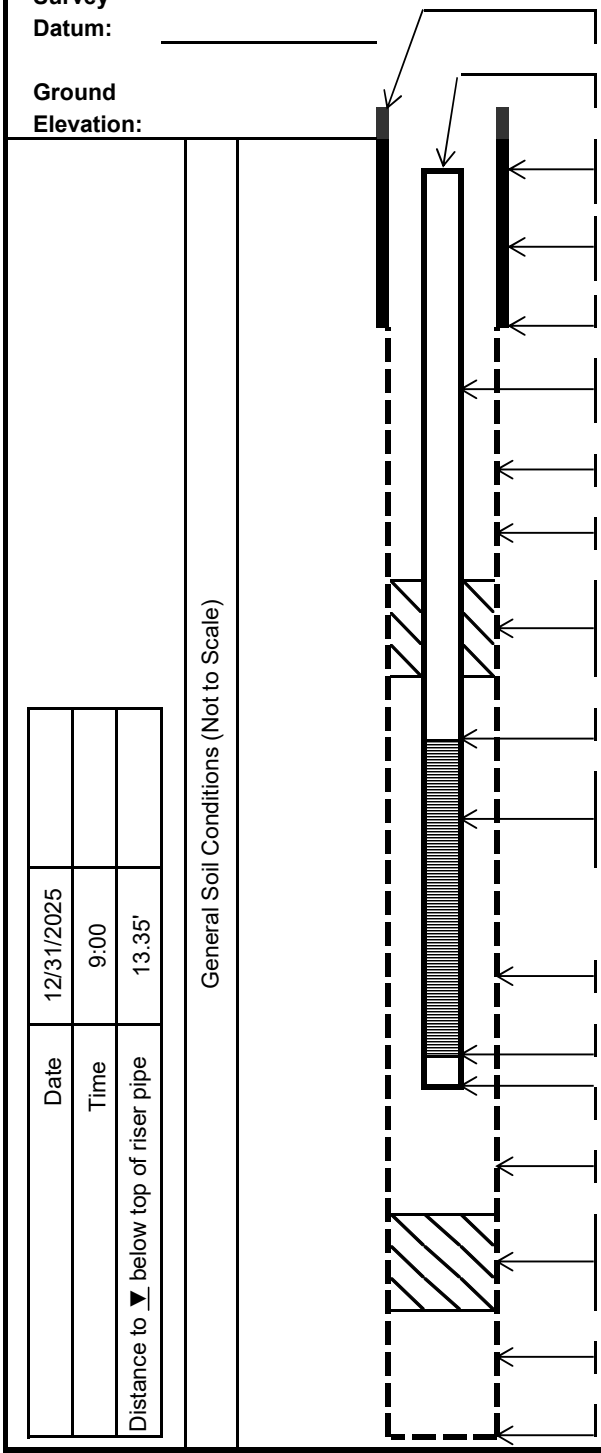
Groundwater Well Installation Log

MW407

Project	50 Tufts Street	**GEI Proj. No.**	45163
City / Town	Somerville, MA	**Location**	31 Tufts Street
Client	Unifirst		
Contractor	Northern Drill Service		
Driller	J. Flemming **GEI Rep.** C. McCallum-Green	**Install Date**	12/30/2025

Survey Datum:

Ground Elevation:



Length of Surface Casing above Ground	0"
Dist. Top of Surf. Casing to Top of Riser Pipe	2"
Type and Thickness of Seal around Surface Casing	Cement
ID of Surface Casing	4"
Type of Surface Casing	Roadbox
Depth Bottom of Surface Casing	1'
ID and OD of Riser Pipe	2"/2.25"
Type of Riser Pipe	Schedule 40 PVC
Type of Backfill around Riser Pipe	Silica Sand
Diameter of Borehole	4"
Depth Top of Seal	2"
Type of Seal	Bentonite Chips
Depth Bottom of Seal	3.5"
Depth Top of Screened Section	4.45'
Type of Screen	Schedule 40 PVC
Description of Screen Openings	0.01"
ID and OD of Screened Section	2"/2.25"
Type of Filter Material	Silica Sand
Depth Bottom of Screened Section	14.45'
Depth Bottom of Silt Trap	14.6'
Depth Bottom of Filter Material	14.6'
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	NA
Bottom of Borehole	14.6'

Notes:

Borehole drilled to 18 feet; however, casing could only be drilled to 14.6 feet to install well.

GEI Consultants

Boring Number: KE-114	**Location:** Washington Street Bridge	**Drilling Method:** Mud Rotary
Boring Total Depth: 30.0 ft	**Coordinates (X/Y, Lat/Long):** 2963883.76 ft / 767576.54 ft	**Drilling Equipment:** CME 750
Depth to Cored Rock: No Rock Cored	**Datum/Coordinate System:** NAD83_MA_StatePlane 2001 Ft	**Drilling Company:** Geologic
Date Begin/End: 09-12-12 / 09-12-12	**Top of Boring Elevation:** 27.7 ft	**Bit Size/Type:** 4.25
Surface Conditions: Grass	**Coordinate Data Source:** GPS	**Hammer Type/Method:** automatic
WL Measurement Point: Ground Surface	**Depth to Water at Time of Drilling:**	**Hammer Drop/Weight:** 30 in. / 140 lbs.
Logged By: M. Zirolli	**Depth to Groundwater Date/Time:** 21.25' on 9/27/12	**Angle From Horizontal/Bearing:** -90°

Depth (ft)	Elevation (ft)	Sample Type Symbol	Sample Number	Blows per 6 in.	Recovery Length (in.)	Pocket Pen. (tsf)	Graphic Log	USCS Symbol	Field Soil Description & Classification *The report and log key are an integral part of these logs. All data and interpretations in this log are subject to those stated explanations and limitations.* Description	Laboratory: Plasticity Index	Liquid Limit	Water Content (%)	Dry Unit Weight (pcf)	Passing #4 Sieve (%)	Passing #200 Sieve (%)	Other Tests and Field Notes	Well Construction
			S-1	7 14 21 29	20			SW-SM	(FILL) Well Graded SAND with Silt and Gravel (SW-SM), light brown with black layers, moist, dense, with coal and ash.							PID = 0.8	
			S-2	19 18 16 20	18			SW-SM	(FILL) Well Graded SAND with Silt and Gravel (SW-SM), light brown with black layers, moist, dense, with coal and ash.							PID = 0.0	
5	22.7		S-3	6 9 9 3	5			SW	(FILL) Well Graded SAND with Gravel (SW), light brown, wet, medium dense.							PID = 0.0 10.0 ft of native fill	
			S-4	7 6 7 7	0				No Recovery							PID = 0.0	
			S-5	8 6 6 8	10			CL	Sandy Lean CLAY (CL), dark brown, moist, stiff.							PID = 0.0	
10	17.7		S-6	10 10 11 10	9			SC	Clayey SAND (SC) , dark brown, moist, medium dense.							PID = 0.0 2.5 ft of bentonite	
			S-7	14 10 21 15	12			SC	Clayey SAND with Gravel (SC) , dark brown, moist, dense.							PID = 0.0 2.5 ft of #2 sand	
15	12.7		S-8	7 7 4 6	9			SM	Silty SAND (SM) , dark brown, dry, medium dense.							PID = 0.0	
			S-9	45 48 48 35	22			SW-SC	Well Graded SAND with Clay and Gravel (SW-SC), reddish brown and gray, moist, very dense.							PID = 0.0	
			S-10	18 24 30 25	14			GC	Clayey GRAVEL (GC), brown, wet, very dense. (TILL)							PID = 0.0	
20	7.7		S-11	17 23 17 13	11			GC	Clayey GRAVEL (GC), brown, wet, very dense. (TILL)							PID = 0.0	
				40	16			GM								PID = 0.0	

KLEINFELDER
Bright People. Right Solutions.

Project Number: 2012096	**LOG KE-114**
Entry By: MJZ	
Checked By: BJS	**South of Washington Borings**
Date Checked: 12-13-12	
Page: 1 of 2	

EXTON COMBINED LOG KA CORPORATE STD.GDT KLEINFELDER GINT STD LIBRARY R4_EXTON.GLB SOUTH OF WASHINGTON BORINGS.GPJ 12/13/12

Boring Number: KE-114	**Location:** Washington Street Bridge	**Drilling Method:** Mud Rotary
Boring Total Depth: 30.0 ft	**Coordinates (X/Y, Lat/Long):** 2963883.76 ft / 767576.54 ft	**Drilling Equipment:** CME 750
Depth to Cored Rock: No Rock Cored	**Datum/Coordinate System:** NAD83_MA_StatePlane 2001 Ft	**Drilling Company:** Geologic
Date Begin/End: 09-12-12 / 09-12-12	**Top of Boring Elevation:** 27.7 ft	**Bit Size/Type:** 4.25
Surface Conditions: Grass	**Coordinate Data Source:** GPS	**Hammer Type/Method:** automatic
WL Measurement Point: Ground Surface	**Depth to Water at Time of Drilling:**	**Hammer Drop/Weight:** 30 in. / 140 lbs.
Logged By: M. Zirolli	**Depth to Groundwater Date/Time:** 21.25' on 9/27/12	**Angle From Horizontal/Bearing:** -90°

Depth (ft)	Elevation (ft)	Sample Type Symbol	Sample Number	Blows per 6 in.	Recovery Length (in.)	Pocket Pen. (tsf)	Graphic Log	USCS Symbol	Field Soil Description & Classification *The report and log key are an integral part of these logs. All data and interpretations in this log are subject to those stated explanations and limitations.* Description	Laboratory: Plasticity Index	Liquid Limit	Water Content (%)	Dry Unit Weight (pcf)	Passing #4 Sieve (%)	Passing #200 Sieve (%)	Other Tests and Field Notes	Well Construction
			S-12	62 66 100/4"					Silty GRAVEL (GM), gray, wet, very dense. (Weathered Bedrock) (*layer continued from previous page*)							15.0 ft of 10 slot screen with #2 sand	
			S-13	100/3"	2			GM	Silty GRAVEL (GM), gray, wet, very dense. Refusal at 24.25'. Drilled out to 30' to set well.							PID = 0.0	
25	2.7																
30	-2.3								Completed at a depth of 30.0 ft below existing site grade.								
35	-7.3																
40	-12.3																

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Project Number: 2012096	**LOG KE-114**
Entry By: MJZ	
Checked By: BJS	**South of Washington Borings**
Date Checked: 12-13-12	
Page: 2 of 2	

EXTON COMBINED LOG KA CORPORATE STD.GDT KLEINFELDER GINT STD LIBRARY R4_EXTON.GLB SOUTH OF WASHINGTON BORINGS.GPJ 12/13/12

Boring Number: KE-115	**Location:** Washington Street Bridge	**Drilling Method:** Mud Rotary
Boring Total Depth: 30.0 ft	**Coordinates (X/Y, Lat/Long):** 2963952.8 ft / 767529.38 ft	**Drilling Equipment:** CME 750
Depth to Cored Rock: No Rock Cored	**Datum/Coordinate System:** NAD83_MA_StatePlane 2001 Ft	**Drilling Company:** Geologic
Date Begin/End: 09-11-12 / 09-11-12	**Top of Boring Elevation:** 28.2 ft	**Bit Size/Type:** 4.25
Surface Conditions: Grass	**Coordinate Data Source:** GPS	**Hammer Type/Method:** automatic
WL Measurement Point: Ground Surface	**Depth to Water at Time of Drilling:** 21.15'	**Hammer Drop/Weight:** 30 in. / 140 lbs.
Logged By: M. Zirolli	**Depth to Groundwater Date/Time:** 21.21' on 9/27/12	**Angle From Horizontal/Bearing:** -90°

Depth (ft)	Elevation (ft)	Sample Type Symbol	Sample Number	Blows per 6 in.	Recovery Length (in.)	Pocket Pen. (tsf)	Graphic Log	USCS Symbol	Field Soil Description & Classification *The report and log key are an integral part of these logs. All data and interpretations in this log are subject to those stated explanations and limitations.* Description	Laboratory: Plasticity Index	Liquid Limit	Water Content (%)	Dry Unit Weight (pcf)	Passing #4 Sieve (%)	Passing #200 Sieve (%)	Other Tests and Field Notes	Well Construction
			S-1	4 5 7 9	17			SW-SM	(FILL) Well Graded SAND with Silt and Gravel (SW-SM), black, moist, medium dense, with coal and ash.							PID = 0.0	
			S-2	8 5 8 7	14			SW-SM	(FILL) Well Graded SAND with Silt and Gravel (SW-SM), black to light brown, moist, medium dense, with coal.							PID = 0.0	
			S-3	7 5 7 13	15			SW-SM	(FILL) Well Graded SAND with Silt and Gravel (SW-SM), black to light brown, moist, medium dense, with coal.							PID = 0.0 10.0 ft of native fill	
5	23.2		S-4	25 13 21 20	16			SP-SM	(FILL) Poorly Graded SAND with Silt and Gravel (SP-SM), light brown, moist, dense, trace coal.							PID = 0.0	
			S-5	14 14 16 15	15			SC	(FILL) Clayey SAND with Gravel (SC), light brown, moist, dense.							PID = 0.0	
10	18.2		S-6	11 11 16 7	10			SC	(FILL) Clayey SAND with Gravel (SC), light brown, moist, medium dense.							PID = 0.0 2.5 ft of bentonite	
			S-7	12 11 9 8	5			GC	(FILL) Clayey GRAVEL with Sand (GC), light brown, wet, medium dense.							PID = 0.0 2.5 ft of #2 sand	
15	13.2		S-8	7 4 5 6	9			CL	Sandy Lean CLAY (CL), dark brown, wet, stiff.							PID = 0.0	
			S-9	11 10 18 21	8			GC	Clayey GRAVEL with Sand (GC), dark brown, wet, medium dense.							PID = 0.0	
			S-10	14 18 15 16	14			SC	Clayey SAND with Gravel (SC), reddish brown and dark brown, wet, dense.							PID = 0.0	
20	8.2		S-11	30 32 29 31	12			SC	Clayey SAND with Gravel (SC), reddish brown with gray clay, wet, very dense. (Till)							PID = 0.0	
				31	15			SC								PID =0.0	

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Project Number: 2012096	**LOG KE-115**
Entry By: MJZ	
Checked By: BJS	**South of Washington Borings**
Date Checked: 12-13-12	
Page: 1 of 2	

EXTON COMBINED LOG KA CORPORATE STD.GDT KLEINFELDER GINT STD LIBRARY R4_EXTON.GLB SOUTH OF WASHINGTON BORINGS.GPJ 12/13/12

Boring Number: KE-115	**Location:** Washington Street Bridge	**Drilling Method:** Mud Rotary
Boring Total Depth: 30.0 ft	**Coordinates (X/Y, Lat/Long):** 2963952.8 ft / 767529.38 ft	**Drilling Equipment:** CME 750
Depth to Cored Rock: No Rock Cored	**Datum/Coordinate System:** NAD83_MA_StatePlane 2001 Ft	**Drilling Company:** Geologic
Date Begin/End: 09-11-12 / 09-11-12	**Top of Boring Elevation:** 28.2 ft	**Bit Size/Type:** 4.25
Surface Conditions: Grass	**Coordinate Data Source:** GPS	**Hammer Type/Method:** automatic
WL Measurement Point: Ground Surface	**Depth to Water at Time of Drilling:** 21.15'	**Hammer Drop/Weight:** 30 in. / 140 lbs.
Logged By: M. Zirolli	**Depth to Groundwater Date/Time:** 21.21' on 9/27/12	**Angle From Horizontal/Bearing:** -90°

Depth (ft)	Elevation (ft)	Sample Type Symbol	Sample Number	Blows per 6 in.	Recovery Length (in.)	Pocket Pen. (tsf)	Graphic Log	USCS Symbol	Field Soil Description & Classification *The report and log key are an integral part of these logs. All data and interpretations in this log are subject to those stated explanations and limitations.* Description	Laboratory: Plasticity Index	Liquid Limit	Water Content (%)	Dry Unit Weight (pcf)	Passing #4 Sieve (%)	Passing #200 Sieve (%)	Other Tests and Field Notes	Well Construction
			S-12	19 20 21	14				Clayey SAND with Gravel (SC), gray, wet, dense. (Till) (*layer continued from previous page*)							15.0 ft of 10 slot screen with #2 sand	
25	3.2		S-13	21 31 38 42				GC	Clayey GRAVEL with Sand (GC), gray, wet, very dense. (Till)							PID = 0.0	
			S-14	46 41 31 24	16			GC	Clayey GRAVEL with Sand (GC), gray, wet, very dense. (Till)							PID = 0.0	
30	-1.8		S-15	100/3"				GC	Clayey GRAVEL with Sand (GC), gray, wet, very dense. (Till)							PID = 0.0	
									Completed at a depth of 30.0 ft below existing site grade.								
35	-6.8																
40	-11.8																

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Project Number: 2012096	**LOG KE-115**
Entry By: MJZ	
Checked By: BJS	**South of Washington Borings**
Date Checked: 12-13-12	
Page: 2 of 2	

EXTON COMBINED LOG KA CORPORATE STD.GDT KLEINFELDER GINT STD LIBRARY R4_EXTON.GLB SOUTH OF WASHINGTON BORINGS.GPJ 12/13/12

Boring Number: KE-116	**Location:** Washington Street Bridge	**Drilling Method:** Mud Rotary
Boring Total Depth: 32.0 ft	**Coordinates (X/Y, Lat/Long):** 2964026.03 ft / 767475.31 ft	**Drilling Equipment:** CME 750
Depth to Cored Rock: No Rock Cored	**Datum/Coordinate System:** NAD83_MA_StatePlane 2001 Ft	**Drilling Company:** Geologic
Date Begin/End: 09-10-12 / 09-10-12	**Top of Boring Elevation:** 28.3 ft	**Bit Size/Type:** 4.25
Surface Conditions: Grass	**Coordinate Data Source:** GPS	**Hammer Type/Method:** automatic
WL Measurement Point: Ground Surface	**Depth to Water at Time of Drilling:** 23'	**Hammer Drop/Weight:** 30 in. / 140 lbs.
Logged By: M. Zirolli	**Depth to Groundwater Date/Time:** 21.26' on 9/27/12	**Angle From Horizontal/Bearing:** -90°

Depth (ft)	Elevation (ft)	Sample Type Symbol	Sample Number	Blows per 6 in.	Recovery Length (in.)	Pocket Pen. (tsf)	Graphic Log	USCS Symbol	Field Soil Description & Classification *The report and log key are an integral part of these logs. All data and interpretations in this log are subject to those stated explanations and limitations.* Description	Laboratory: Plasticity Index	Liquid Limit	Water Content (%)	Dry Unit Weight (pcf)	Passing #4 Sieve (%)	Passing #200 Sieve (%)	Other Tests and Field Notes	Well Construction
			S-1	2 4 8 8	12			SP	(FILL) Poorly Graded Fine SAND with Gravel (SP), light tan, moist, medium dense.							PID = 0.0	
			S-2	6 4 2 1	13			SP	(FILL) Poorly Graded Fine SAND with Gravel (SP), light tan, moist, loose.							PID = 0.0	
5	23.3		S-3	4 3 2 3	11			SW	(FILL) Well Graded SAND with Gravel (SW), black, wet, loose, with frequent coal, ash and cinders.							PID = 0.0 10.0 ft of native fill →	
			S-4	10 6 8 8	12			SW	(FILL) Well Graded SAND with Gravel (SW), light brown, moist, medium dense.							PID = 0.0	
			S-5	15 8 9 9	7			SW	(FILL) Well Graded SAND with Gravel (SW), light brown, wet, medium dense.							PID = 0.0	
10	18.3		S-6	6 4 5 6	6			SW	(FILL) Well Graded SAND with Gravel (SW), light brown, wet, loose.							PID = 0.0 2.5 ft of bentonite →	
			S-7	10 8 6 8	8			SW	(FILL) Well Graded SAND with Gravel (SW), light brown, wet, medium dense.							PID = 0.0 2.5 ft of #2 sand →	
15	13.3		S-8	10 4 6 4	4			SW	(FILL) Well Graded SAND with Gravel (SW), light brown, wet, medium dense.							PID = 0.0	
			S-9	9 5 12 14	8			SP	Poorly Graded Fine SAND (SP), light brown, moist, medium dense.							PID = 0.0	
			S-10	10 16 17 23	16			SP	Same as above grading to Poorly Graded Medium SAND (SP), reddish brown, moist, dense.							PID = 0.0	
20	8.3		S-11	22 26 30 34	15			SW-SM	Well Graded SAND with Silt and Gravel (SW-SM), brown, red and gray, wet, very dense.							PID = 0.0	
				13	14			SW-SM								PID = 0.0	

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Project Number: 2012096	**LOG KE-116**
Entry By: MJZ	
Checked By: BJS	**South of Washington Borings**
Date Checked: 12-13-12	
Page: 1 of 2	

EXTON COMBINED LOG KA CORPORATE STD.GDT KLEINFELDER GINT STD LIBRARY R4_EXTON.GLB SOUTH OF WASHINGTON BORINGS.GPJ 12/13/12

Boring Number: KE-116	**Location:** Washington Street Bridge	**Drilling Method:** Mud Rotary
Boring Total Depth: 32.0 ft	**Coordinates (X/Y, Lat/Long):** 2964026.03 ft / 767475.31 ft	**Drilling Equipment:** CME 750
Depth to Cored Rock: No Rock Cored	**Datum/Coordinate System:** NAD83_MA_StatePlane 2001 Ft	**Drilling Company:** Geologic
Date Begin/End: 09-10-12 / 09-10-12	**Top of Boring Elevation:** 28.3 ft	**Bit Size/Type:** 4.25
Surface Conditions: Grass	**Coordinate Data Source:** GPS	**Hammer Type/Method:** automatic
WL Measurement Point: Ground Surface	**Depth to Water at Time of Drilling:** 23'	**Hammer Drop/Weight:** 30 in. / 140 lbs.
Logged By: M. Zirolli	**Depth to Groundwater Date/Time:** 21.26' on 9/27/12	**Angle From Horizontal/Bearing:** -90°

Depth (ft)	Elevation (ft)	Sample Type Symbol	Sample Number	Blows per 6 in.	Recovery Length (in.)	Pocket Pen. (tsf)	Graphic Log	USCS Symbol	Field Soil Description & Classification: *The report and log key are an integral part of these logs. All data and interpretations in this log are subject to those stated explanations and limitations.* — Description	Laboratory: Plasticity Index	Liquid Limit	Water Content (%)	Dry Unit Weight (pcf)	Passing #4 Sieve (%)	Passing #200 Sieve (%)	Other Tests and Field Notes	Well Construction
			S-12	20 24 29					Well Graded SAND with Silt and Gravel (SW-SM), brown with red, brown and gray gravel, occasional weathered argillite, wet, dense. (*layer continued from previous page*)							15.0 ft of 10 slot screen with #2 sand	
				35	0			SW-SM	No Recovery								
25	3.3		S-13	27 30 23													
				29	17			CL	Gravely Lean CLAY with Sand (CL), red-brown, wet, very dense, slightly plastic. (Till)							PID = 0.0	
			S-14	25 31 24													
				19	14			CL	Gravely Lean CLAY with Sand (CL), red-brown, wet, very dense, slightly plastic. (Till)							PID = 0.0	
			S-15	29 27 31													
30	-1.7			25	18			CL	Gravely Lean CLAY with Sand (CL), red-brown, wet, very dense, slightly plastic. (Till)							PID = 0.0	
			S-16	19 43 100													
									Completed at a depth of 32.0 ft below existing site grade.								
35	-6.7																
40	-11.7																

EXTON COMBINED LOG KA CORPORATE STD.GDT KLEINFELDER GINT STD LIBRARY R4_EXTON.GLB SOUTH OF WASHINGTON BORINGS.GPJ 12/13/12

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Project Number: 2012096	**LOG KE-116**
Entry By: MJZ	
Checked By: BJS	**South of Washington Borings**
Date Checked: 12-13-12	
Page: 2 of 2	

Boring Number: KE-117	**Location:** Mystic Junction Training Facility Parking Lot	**Drilling Method:** Hollow-stem auger
Boring Total Depth: 20.0 ft	**Coordinates (X/Y, Lat/Long):** 2964054.66 ft / 767626.86 ft	**Drilling Equipment:** Truck Rig
Depth to Cored Rock: No Rock Cored	**Datum/Coordinate System:** NAD83_MA_StatePlane 2001 Ft	**Drilling Company:** Geologic
Date Begin/End: 08-23-12 / 08-23-12	**Top of Boring Elevation:** 16.2 ft	**Bit Size/Type:** 4.25
Surface Conditions: Asphalt	**Coordinate Data Source:** GPS	**Hammer Type/Method:** automatic
WL Measurement Point: Ground Surface	**Depth to Water at Time of Drilling:** 8'	**Hammer Drop/Weight:** 30 in. / 140 lbs.
Logged By: J. Liddon	**Depth to Groundwater Date/Time:** 8.90' on 9/27/12	**Angle From Horizontal/Bearing:** -90°

Depth (ft)	Elevation (ft)	Sample Type Symbol	Sample Number	Blows per 6 in.	Recovery Length (in.)	Pocket Pen. (tsf)	Graphic Log	USCS Symbol	Field Soil Description & Classification *The report and log key are an integral part of these logs. All data and interpretations in this log are subject to those stated explanations and limitations.* Description	Laboratory: Plasticity Index	Liquid Limit	Water Content (%)	Dry Unit Weight (pcf)	Passing #4 Sieve (%)	Passing #200 Sieve (%)	Other Tests and Field Notes	Well Construction
								SW-SM	Asphalt								
			S-1	7 8 8	12			GM	(FILL) Well Graded SAND with Silt (SW-SM), dark brown, dry, medium dense.							PID = 0.4 2.0 ft of native fill	
			S-2	6 7 3 3	3			GM	(FILL) Silty GRAVEL with Sand (GM), dark brown, wet, medium dense.							PID = 0.4 1.0 ft of bentonite 2.0 ft of #2 sand	
5	11.2		S-3	WOH WOH 1 1	18			ML	SILT (ML), dark brown, moist, very soft.							PID= 0.4	
			S-4	3 4 9 10	20			ML SW	Top 4" Same as above. Well Graded SAND (SW), brown, moist, medium dense.							PID = 0.3	
			S-5	10 12 14 14	16			SW	Well Graded SAND (SW), brown, wet, medium dense.							PID = 0.3	
10	6.2		S-7	8 12 11 14	14			SW	Same as above.							PID = 0.3	
			S-8	12 7 5 9	24			SW	Same as above. Bottom 1" Lean CLAY (CL), gray, moist.							PID = 0.5 15.0 ft of 10 slot screen with #2 sand	
15	1.2		S-9	5 5 6 7	22			MH	Elastic SILT (MH), gray, wet, stiff.							PID = 0.4	
			S-10	10 10 11 7	16			MH	Elastic SILT (MH), red-gray, wet, very stiff.							PID = 0.5	
			S-11	15 23 49 42	14			SW-SM	Well Graded SAND with Silt and Gravel (SW-SM), red-gray, wet, very dense. Weathered rock in spoon tip.							PID = 0.4	
20	-3.8								Completed at a depth of 20.0 ft below existing site grade.								

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Project Number: 2012096	**LOG KE-117**
Entry By: MJZ	
Checked By: BJS	**South of Washington Borings**
Date Checked: 12-13-12	
Page: 1 of 1	

EXTON COMBINED LOG KA CORPORATE STD.GDT KLEINFELDER GINT STD LIBRARY R4_EXTON.GLB SOUTH OF WASHINGTON BORINGS.GPJ 12/13/12

Boring Number: MW-5R	**Location:** Washington Street Bridge	**Drilling Method:** Mud Rotary
Boring Total Depth: 30.0 ft	**Coordinates (X/Y, Lat/Long):** 2963832.55 ft / 767615.48 ft	**Drilling Equipment:** CME 750
Depth to Cored Rock: No Rock Cored	**Datum/Coordinate System:** NAD83_MA_StatePlane 2001 Ft	**Drilling Company:** Geologic
Date Begin/End: 09-13-12 / 09-13-12	**Top of Boring Elevation:** 26.5 ft	**Bit Size/Type:** 4.25
Surface Conditions: Ballast	**Coordinate Data Source:** GPS	**Hammer Type/Method:** automatic
WL Measurement Point: Ground Surface	**Depth to Water at Time of Drilling:** 20'	**Hammer Drop/Weight:** 30 in. / 140 lbs.
Logged By: M. Zirolli	**Depth to Groundwater Date/Time:** 19.34' on 9/27/12	**Angle From Horizontal/Bearing:** -90°

Depth (ft)	Elevation (ft)	Sample Type Symbol	Sample Number	Blows per 6 in.	Recovery Length (in.)	Pocket Pen. (tsf)	Graphic Log	USCS Symbol	Field Soil Description & Classification *The report and log key are an integral part of these logs. All data and interpretations in this log are subject to those stated explanations and limitations.* **Description**	Laboratory: Plasticity Index	Liquid Limit	Water Content (%)	Dry Unit Weight (pcf)	Passing #4 Sieve (%)	Passing #200 Sieve (%)	Other Tests and Field Notes	Well Construction
			S-1	10 16 10 14	7			SW	(FILL) Well Graded SAND and Gravel (SW), gray brown sand with angular purple gravel, dry, medium dense.							PID = 0.0	
			S-2	12 19 21 24	12			SW-SM	(FILL) Well Graded SAND with Silt (SW-SM), light brown with black layers, dry, dense.							PID = 0.0	
5	21.5		S-3	8 16 24 22	15			SW	(FILL) Well Graded SAND with Gravel (SW), light brown and black, dry, dense, with coal and ash.							PID = 0.0 12.0 ft of native fill	
			S-4	15 17 21 15	14			SW	(FILL) Well Graded SAND with Gravel (SW), brown, dry, dense.							PID = 0.0	
			S-5	16 18 15 18	10			SW-SM	(FILL) Well Graded SAND with Silt and Gravel (SW-SM), orange brown, moist, dense.							PID = 0.0	
10	16.5		S-6	7 7 7 7	13			SM	Silty SAND with Gravel (SM), orange brown, moist, medium dense, slightly plastic.							PID = 0.0	
			S-7	8 7 6 5	10			SM	Silty SAND (SM), orange brown, moist, medium dense, slightly plastic.							PID = 0.0 1.0 ft of bentonite 2.0 ft of #2 sand	
15	11.5		S-8	5 5 7 9	6			SM	Silty SAND (SM), orange brown, moist, medium dense, slightly plastic.							PID = 0.0	
			S-9	20 16 16 20	20			SM	Silty SAND (SM), gray and brown, wet, dense, slightly plastic. Fuel oil odor.							PID = 63.3	
			S-10	10 15 12 14	12			SM	Silty SAND with Gravel (SM), wet, dense, nonplastic. Fuel oil odor.							PID = 137	
20	6.5		S-11	16 34 70 70	10			GW-GC	Well Graded Gravel with Clay and Sand (GW-GC), orange and gray, wet, very dense. Slight odor. (Till)							PID = 6.7	
				4	6			GW-GC								PID = 0.1	

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Project Number: 2012096	**LOG MW-5R**
Entry By: MJZ	
Checked By: BJS	**South of Washington Borings**
Date Checked: 12-13-12	
Page: 1 of 2	

EXTON COMBINED LOG KA CORPORATE STD.GDT KLEINFELDER GINT STD LIBRARY R4_EXTON.GLB SOUTH OF WASHINGTON BORINGS.GPJ 12/13/12

Boring Number: MW-5R	**Location:** Washington Street Bridge	**Drilling Method:** Mud Rotary
Boring Total Depth: 30.0 ft	**Coordinates (X/Y, Lat/Long):** 2963832.55 ft / 767615.48 ft	**Drilling Equipment:** CME 750
Depth to Cored Rock: No Rock Cored	**Datum/Coordinate System:** NAD83_MA_StatePlane 2001 Ft	**Drilling Company:** Geologic
Date Begin/End: 09-13-12 / 09-13-12	**Top of Boring Elevation:** 26.5 ft	**Bit Size/Type:** 4.25
Surface Conditions: Ballast	**Coordinate Data Source:** GPS	**Hammer Type/Method:** automatic
WL Measurement Point: Ground Surface	**Depth to Water at Time of Drilling:** 20'	**Hammer Drop/Weight:** 30 in. / 140 lbs.
Logged By: M. Zirolli	**Depth to Groundwater Date/Time:** 19.34' on 9/27/12	**Angle From Horizontal/Bearing:** -90°

Depth (ft)	Elevation (ft)	Sample Type Symbol	Sample Number	Blows per 6 in.	Recovery Length (in.)	Pocket Pen. (tsf)	Graphic Log	USCS Symbol	Field Soil Description & Classification	Laboratory: Plasticity Index	Liquid Limit	Water Content (%)	Dry Unit Weight (pcf)	Passing #4 Sieve (%)	Passing #200 Sieve (%)	Other Tests and Field Notes	Well Construction
									The report and log key are an integral part of these logs. All data and interpretations in this log are subject to those stated explanations and limitations.								
			S-12	100/4"					Same as above Encounter refusal at 23'. Rollerbit to 30' to set well. (*layer continued from previous page*)							15.0 ft of 10 slot screen with #2 sand	
25	1.5																
30	-3.5								Completed at a depth of 30.0 ft below existing site grade.								
35	-8.5																
40	-13.5																

EXTON COMBINED LOG KA CORPORATE STD.GDT KLEINFELDER GINT STD LIBRARY R4_EXTON.GLB SOUTH OF WASHINGTON BORINGS.GPJ 12/13/12

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Project Number: 2012096	**LOG MW-5R**
Entry By: MJZ	
Checked By: BJS	**South of Washington Borings**
Date Checked: 12-13-12	
Page: 2 of 2	

Date Begin - End:	3/25/2014	**Drilling Company:**	NH Boring	**BORING LOG KE-202-WS-D**	
Logged By:	B. Straley	**Drill Crew:**	W. Hoecklemouse & B. Cross		
Hor.-Vert. Datum:	NAD83 - NAVD88	**Drilling Equipment:**	Diedrich D-50	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Mud Rotary		
Weather:	25° F, Sunny	**Casing Diameter:**	4 in. O.D.		

FIELD EXPLORATION | MONITORING WELL CONSTRUCTION

Northing: 2,964,007.585
Easting: 767,678.028
Surveyed Ground Surface Elevation (ft.): 19.49
Surface Condition: Asphalt

Completion Method:
Flush mount Cap in concrete

Surveyed Elevation (feet)	Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID (ppmv)	Graphical Log	Lithologic Description
15	5	Mud Rotary						**Fill**: Drill to 19 feet. Based on rollerbit behavior and drill cuttings, material is fill consisting of sand, cobbles and coal. No coal observed after 12 feet.
10	10							
5	15							Based on drill cuttings, Clay at 16 feet.
0	20			KE-202D_19-21	24"	0.5		**Lean CLAY (CL)**: high plasticity, olive gray, wet, firm

Drill Cuttings
2" SCH 40 Solid PVC Riser
Bentonite Chips

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PROJECT NO.:	20140137
DRAWN BY:	RI
CHECKED BY:	BJS
DATE:	4/30/2014
REVISED:	-

BORING LOG KE-202-WS-D

Green Line Extension
Near Washington St
Somerville, MA

PLATE 1

PAGE: 1 of 2

gINT FILE: G:_clients\mbta\20111035.01 - Green Line Extension\08 Environmental\documents\cvoc Contamination - Tufts St And Washington\boring Logs\washington St Area Logs.gpj R:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_ENVIRONMENTAL LOG]

Date Begin - End:	3/25/2014	**Drilling Company:**	NH Boring	**BORING LOG KE-202-WS-D**	
Logged By:	B. Straley	**Drill Crew:**	W. Hoecklemouse & B. Cross		
Hor.-Vert. Datum:	NAD83 - NAVD88	**Drilling Equipment:**	Diedrich D-50	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Mud Rotary		
Weather:	25° F, Sunny	**Casing Diameter:**	4 in. O.D.		

FIELD EXPLORATION | MONITORING WELL CONSTRUCTION

Northing: 2,964,007.585
Easting: 767,678.028
Surveyed Ground Surface Elevation (ft.): 19.49
Surface Condition: Asphalt

Completion Method:
Flush mount Cap in concrete

Surveyed Elevation (feet)	Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID (ppmv)	Graphical Log	Lithologic Description
-5	25			KE-202D_24-26	22"	1.1		**Sandy Lean CLAY with Gravel (CL)**: low plasticity, gray, wet, firm, Bottom 2" - Weathered Argillite
								Weathered Argillite
								Well-graded GRAVEL with Silt (GW): gray, wet, very dense
-10	30	Mud Rotary			5"	1.4		
-15	35							
-20	40							
-25	45							

Sand

2" SCH 40 Slotted 0.010 PVC Screen

The bore was terminated at approximately 35 ft. below ground surface. Rock was encountered at a depth of 25 ft. during this bore.

GROUNDWATER LEVEL INFORMATION:
Groundwater was encountered at approximately 11 ft (El. 8.66) 7 days after drilling.
GENERAL NOTES:
The bore location and elevation were surveyed by Kleinfelder.

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PROJECT NO.:	20140137
DRAWN BY:	RI
CHECKED BY:	BJS
DATE:	4/30/2014
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BORING LOG KE-202-WS-D

Green Line Extension
Near Washington St
Somerville, MA

PLATE 2

PAGE: 2 of 2

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Date Begin - End:	3/25/2014	**Drilling Company:**	NH Boring	**BORING LOG KE-202-WS-S**	
Logged By:	B. Straley	**Drill Crew:**	W. Hoecklemouse & B. Cross		
Hor.-Vert. Datum:	NAD83 - NAVD88	**Drilling Equipment:**	Diedrich D-50	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Mud Rotary		
Weather:	25-40° F, Sunny	**Casing Diameter:**	4 in. O.D.		

FIELD EXPLORATION | MONITORING WELL CONSTRUCTION

Surveyed Elevation (feet) | Depth (feet) | Drilling Method | Sample Type | Sample Number | Recovery (NR=No Recovery) | PID (ppmv) | Graphical Log

Northing: 2,964,008.897
Easting: 767,676.345
Surveyed Ground Surface Elevation (ft.): 19.46
Surface Condition: Asphalt

Completion Method:
Flush mount Cap in concrete

Lithologic Description

Fill: Drill straight to 14 feet. Material is sandy fill.

Drill Cuttings
Bentonite Chips
2" SCH 40 Solid PVC Riser
Sand
2" SCH 40 Slotted 0.010 PVC Screen

Surveyed Elevation (feet)	Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID (ppmv)	Graphical Log	Lithologic Description
15	5	Mud Rotary						**Fill**: Drill straight to 14 feet. Material is sandy fill.
10	10							
5	15			KE-202S_14-16	13"	0.6		**Fill** **Well-graded SAND (SW)**: dark gray, wet
0	20							
-5								

The bore was terminated at approximately 20 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
Groundwater was observed at approximately 11 ft. (Elev.= 8.49 ft.) below ground surface 7 after drilling completion.
GENERAL NOTES:
The bore location and elevation were surveyed by Kleinfelder.

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PROJECT NO.:	20140137
DRAWN BY:	RI
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DATE:	4/30/2014
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BORING LOG KE-202-WS-S

Green Line Extension
Near Washington St
Somerville, MA

PLATE 3

PAGE: 1 of 1

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Date Begin - End:	3/24/2014 - 4/02/2014	**Drilling Company:**	NH Boring	**BORING LOG KE-204**	
Logged By:	J. Almquist	**Drill Crew:**	R. Burn & W. Walsh		
Hor.-Vert. Datum:	NAD83 - NAVD88	**Drilling Equipment:**	M-1 Track Rig	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	20-40° F, Sunny	**Casing Diameter:**	3 in. O.D.		

FIELD EXPLORATION | MONITORING WELL CONSTRUCTION

Northing: 2,964,162.876
Easting: 767,489.541
Surveyed Ground Surface Elevation (ft.): 27.42
Surface Condition: Ballast

Completion Method:
Flush mount Cap in concrete

Surveyed Elevation (feet)	Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID (ppmv)	Graphical Log	Lithologic Description
25	0	VacTruck		KE-204_0-1		0.0		**Fill**: Ballast
								Fill **Silty SAND with Gravel (SM)**: non-plastic, dark brown, moist
						0.0		**Fill** **Silty SAND (SM)**: non-plastic, dark brown, moist
20	5					0.0		**Fill** **Silty SAND (SM)**: non-plastic to low plasticity, brown, moist
						0.0		**Fill** **Silty SAND (SM)**: non-plastic to low plasticity, brown, moist
15	10	Hollow Stem Auger			6"	0.0		**Fill** **Silty SAND with Gravel (SM)**: non-plastic to low plasticity, brown/black, moist
					12"	0.0		**Silty SAND (SM)**: medium plasticity, gray, moist **CLAY (CL)**: medium plasticity, gray, moist, firm
					14"	0.0		**CLAY (CL)**: medium plasticity, grayish brown, moist, soft to firm
10	15				17"	0.3		**CLAY (CL)**: medium plasticity, grayish brown, moist, soft to firm
					16"	0.3		**CLAY (CL)**: brownish gray, moist, soft
5	20			KE-204_18-20	16"	8.0		**CLAY (CL)**: low plasticity, brownish gray, moist, soft **Clayey SAND with Gravel (SC)**: low plasticity, brownish gray, moist
		Mud Rotary						Roller bit through bolder 19.75' to 20.75'
0	25				NR			

Sand
Bentonite Chips
2" SCH 40 Solid PVC Riser
Sand
2" SCH 40 Slotted 0.010 PVC Screen

The bore was terminated at approximately 25.1 ft. below ground surface. Rock was encountered at a depth of 25 ft. during this bore.

GROUNDWATER LEVEL INFORMATION:
Groundwater was observed at approximately 18.5 ft. (Elev.= 8.91 ft.) below ground surface 12 days after drilling completion.

GENERAL NOTES:
The bore location and elevation were surveyed by Kleinfelder.

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PROJECT NO.:	20140137
DRAWN BY:	RI
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BORING LOG KE-204

Green Line Extension
Near Washington St
Somerville, MA

PLATE 4

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Date Begin - End:	4/01/2014	**Drilling Company:**	NH Boring	**BORING LOG KE-205**	
Logged By:	J. Almquist	**Drill Crew:**	R. Burn & W. Walsh		
Hor.-Vert. Datum:	NAD83 - NAVD88	**Drilling Equipment:**	M-1 Track Rig	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	34° F, Sunny	**Casing Diameter:**	3 in. O.D.		

FIELD EXPLORATION

Northing: 2,964,132.776
Easting: 767,404.563
Surveyed Ground Surface Elevation (ft.): 28.53
Surface Condition: Vegetation

MONITORING WELL CONSTRUCTION

Completion Method:
Flush mount Cap in concrete

Surveyed Elevation (feet)	Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID (ppmv)	Graphical Log	Lithologic Description
25	5	Hollow Stem Auger		KE-205_0-2	10"	0.0		**Fill**: Ballast
								Fill **Poorly-graded SAND with Silt (SP-SM)**: non-plastic, brown, moist
					12"	0.1		**Fill** **Poorly-graded SAND with Silt (SP-SM)**: non-plastic, brown, moist
					10"	0.1		**Fill** **Silty SAND (SM)**: non-plastic, brown, moist
					8"	0.0		**Fill** **Well-graded SAND with Silt (SW-SM)**: non-plastic, brown, moist
20	10				6"	0.1		**Fill** **Poorly-graded GRAVEL with Sand (GP)**: non-plastic, brown, moist
					6"	0.1		**Fill** **2" Crushed Rock over Sandy SILT (ML)**: dark brown, wet
15	15	Mud Rotary		KE-205_14-16	18"	0.0		**CLAY (CL)**: olive, wet
10					NR			
5	20							

Sand
Bentonite Chips
2" SCH 40 Solid PVC Riser
Sand
2" SCH 40 Slotted 0.010 PVC Screen

The bore was terminated at approximately 19.5 ft. below ground surface. Rock was encountered at a depth of 19.5 ft. during this bore.

GROUNDWATER LEVEL INFORMATION:
Groundwater was observed at approximately 18 ft. (Elev.= 10.52 ft.) below ground surface 12 days after drilling completion.

GENERAL NOTES:
The bore location and elevation were surveyed by Kleinfelder.

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PROJECT NO.:	20140137
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REVISED:	-

BORING LOG KE-205

Green Line Extension
Near Washington St
Somerville, MA

PLATE 5

PAGE: 1 of 1

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Date Begin - End:	3/24/2014 - 4/04/2014	**Drilling Company:**	NH Boring	**BORING LOG KE-206**	
Logged By:	J. Almquist	**Drill Crew:**	R. Burn & W. Walsh		
Hor.-Vert. Datum:	NAD83 - NAVD88	**Drilling Equipment:**	M-1 Track Rig	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	30° F, Sunny	**Casing Diameter:**	3 in. O.D.		

FIELD EXPLORATION | MONITORING WELL CONSTRUCTION

Northing: 2,964,301.316
Easting: 767,379.442
Surveyed Ground Surface Elevation (ft.): 26.83
Surface Condition: Ballast

Completion Method:
Flush mount Cap in concrete

Surveyed Elevation (feet)	Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID (ppmv)	Graphical Log	Lithologic Description
25	0	VacTruck				0.1		**Fill** **BALLAST**
								Fill **Silty SAND (SM)**: non-plastic, brown
						0.2		**Fill** **Silty SAND (SM)**: non-plastic to low plasticity, brown, moist
20	5					2.0		**Fill** **Silty SAND (SM)**: low plasticity, brown, moist
						5.2		**Fill** **Silty SAND (SM)**: low plasticity, brown, moist
						3.6		**Fill** **Sandy CLAY little Sand (CL)**: low to medium plasticity, brown and gray, moist
15	10	Hollow Stem Auger		KE-206_10-10.5	18"	21.2		**Fill** **Sandy CLAY little Sand (CL)**: low to medium plasticity, brown and gray, moist
						1.3		
					16"	3.0		**Fill** **Sandy CLAY (CL)**: medium plasticity, brown and gray, moist, Encounter culvert at 10.5 feet, move boring 6 feet toward railroad track.
								Till **Silty Clayey SAND (SC-SM)**: low to medium plasticity, brown, moist
10	15				6"	3.4		**Till** **Silty Clayey SAND with Gravel (SC-SM)**: low to medium plasticity, brown, moist
		Mud Rotary		KE-206_17-19		34.4		**Till** **Silty Clayey SAND with Gravel (SC-SM)**: low to medium plasticity, brown, wet
5	20				NR			

Sand
Bentonite Chips
2" SCH 40 Solid PVC Riser
Sand
2" SCH 40 Slotted 0.010 PVC Screen

The bore was terminated at approximately 21.8 ft. below ground surface. Rock was encountered at a depth of 21.8 ft. during this bore.

GROUNDWATER LEVEL INFORMATION:
Groundwater was observed at approximately 15.5 ft. (Elev.= 11.15 ft.) below ground surface 11 days after drilling completion.
GENERAL NOTES:
The bore location and elevation were surveyed by Kleinfelder.

KLEINFELDER
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PROJECT NO.:	20140137
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BORING LOG KE-206

Green Line Extension
Near Washington St
Somerville, MA

PLATE 6

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Date Begin - End:	3/31/2014	**Drilling Company:**	NH Boring	**BORING LOG KE-207**	
Logged By:	J. Almquist	**Drill Crew:**	R. Burn & W. Walsh		
Hor.-Vert. Datum:	NAD83 - NAVD88	**Drilling Equipment:**	M-1 Track Rig	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	35° F, Rain	**Casing Diameter:**	3 in. O.D.		

FIELD EXPLORATION | MONITORING WELL CONSTRUCTION

Northing: 2,964,241.45
Easting: 767,322.652
Surveyed Ground Surface Elevation (ft.): 27.96
Surface Condition: Sparse Vegetation

Completion Method:
Flush mount Cap in concrete

Surveyed Elevation (feet) / Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID (ppmv)	Graphical Log	Lithologic Description
25 / 5	Hollow Stem Auger			12"	0.1		**Fill** **Silty SAND (SM)**: non-plastic, dark brown, moist, coal fragments
				12"	0.0		**Fill** **Poorly-graded SAND (SP-SM)**: non-plastic, brown, moist, coal fragments
				8"	0.0		**Fill** **Poorly-graded SAND with Gravel (SP-SM)**: brown, moist, ~0.5" thick clay layer
				6"	0.0		**Fill** **Silty Clayey SAND (SM)**: non-plastic to low plasticity, brown, wet
20 / 10				12"	0.0		**Fill** **Sandy Silty CLAY (CL-ML)**: medium plasticity, brown, wet
15 / 15	Mud Rotary		KE-207_14-16	18"	0.5		**CLAY (CL)**: high plasticity, olive, wet
▼ 10				NR			
20 / 5							

Sand
2" SCH 40 Solid PVC Riser
Bentonite Chips
Sand
2" SCH 40 Slotted 0.010 PVC Screen

The bore was terminated at approximately 18.3 ft. below ground surface. Rock was encountered at a depth of 18.3 ft. during this bore.

GROUNDWATER LEVEL INFORMATION:
▼ Groundwater was observed at approximately 17 ft. (Elev.= 11.19 ft.) below ground surface 15 days after drilling completion.

GENERAL NOTES:
The bore location and elevation were surveyed by Kleinfelder.

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PROJECT NO.:	20140137
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BORING LOG KE-207

Green Line Extension
Near Washington St
Somerville, MA

PLATE 7

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BORING LOG KE-208

Date Begin - End:	3/25/2014 - 4/07/2014	**Drilling Company:**	NH Boring		
Logged By:	J. Almquist/B. Straley	**Drill Crew:**	R. Burn & W. Walsh		
Hor.-Vert. Datum:	NAD83 - NAVD88	**Drilling Equipment:**	M-1 Track Rig	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	20° F, Sunny	**Casing Diameter:**	3 in. O.D.		

FIELD EXPLORATION

Northing: 2,964,441.061
Easting: 767,259.58
Surveyed Ground Surface Elevation (ft.): 25.65
Surface Condition: Soil and Gravel

MONITORING WELL CONSTRUCTION

Completion Method:
Flush mount Cap in concrete

Surveyed Elevation (feet) / Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID (ppmv)	Graphical Log	Lithologic Description
25 / 0	Hand Auger				0.0		**Fill** **Silty SAND with Gravel (SM)**: non-plastic, brown, moist
					0.2		**Fill** **Silty SAND with Gravel (SM)**: non-plastic, brown, moist
20 / 5					6.4		**Fill** **Silty SAND with Gravel (SM)**: non-plastic, brown, moist
					8.2		**Fill** **Silty SAND (SM)**: non-plastic to low plasticity, brown and gray, wet
			KE-208_8-8.5		28.1		**Fill** **Sandy SILT (SM)**: brown and gray, wet
				16"	12.2		**Fill** **Sandy Lean CLAY (CL)**: brown, wet
15 / 10	Hollow Stem Auger				0.5		Culvert encountered at 10 feet, Moved 5'10" toward track and continue drilling at 9 feet. **Fill** **Silty SAND (SP-SM)**: brown, dry, occasional coal and brick
				16"	1.6		**Fill** **Silty SAND with Gravel (SM)**: brown, wet
				8"	0.6		**Well-graded SAND (SW)**: brown, wet
10 / 15							
5 / 20							

Drill Cuttings
2" SCH 40 Solid PVC Riser
Bentonite Chips
Sand
2" SCH 40 Slotted 0.010 PVC Screen

The bore was terminated at approximately 14 ft. below ground surface. Rock was encountered at a depth of 14 ft. during this bore.

GROUNDWATER LEVEL INFORMATION:
Groundwater was observed at approximately 12 ft. (Elev.= 13.52 ft.) below ground surface 11 days after drilling completion.

GENERAL NOTES:
The bore location and elevation were surveyed by Kleinfelder.

KLEINFELDER
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PROJECT NO.:	20140137
DRAWN BY:	RI
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BORING LOG KE-208

Green Line Extension
Near Washington St
Somerville, MA

PLATE 8

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Date Begin - End:	3/27/2014 - 3/28/2014	**Drilling Company:**	NH Boring	**BORING LOG KE-209**	
Logged By:	J. Almquist	**Drill Crew:**	W. Walsh, K. Downing		
Hor.-Vert. Datum:	NAD83 - NAVD88	**Drilling Equipment:**	Maruka	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	22° F, Sunny	**Casing Diameter:**	3 in. O.D.		

FIELD EXPLORATION | MONITORING WELL CONSTRUCTION

Northing: 2,964,513.285
Easting: 767,120.404
Surveyed Ground Surface Elevation (ft.): 23.69
Surface Condition: Soil, Packed

Completion Method:
Flush mount Cap in concrete

Surveyed Elevation (feet) / Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID (ppmv)	Graphical Log	Lithologic Description
20 / 5	Hand Auger				0.5		**Fill** **Poorly-graded GRAVEL with Silt and Sand (GP-GM)**: non-plastic, light brown, frozen
					0.3		**Fill** **Silty SAND with Gravel (SM)**: non-plastic, dark brown, moist
	VacTruck				0.6		**Fill** **Poorly-graded SAND with Silt and Gravel (SP-SM)**: non-plastic, light brown, moist
15 ▼ / 10					1.5		**Fill** **Poorly-graded SAND with Silt and Gravel (SP-SM)**: non-plastic, light brown, moist, frequent coal and slag
10 / 15	Hollow Stem Auger			18"	0.0		**Fill** **Poorly-graded SAND with Silt and Gravel (SP-SM)**: brown, wet, brick fragments, one 1" layer of black fine sand
5 / 20			KE-209_15-17	18"	0.0		**Till** **Silty SAND with Gravel (SM)**: non-plastic, brown, wet
0							

Drill Cuttings
2" SCH 40 Solid PVC Riser
Bentonite Chips
Sand
2" SCH 40 Slotted 0.010 PVC Screen

The bore was terminated at approximately 19 ft. below ground surface. Rock was encountered at a depth of 19 ft. during this bore.

GROUNDWATER LEVEL INFORMATION:
▼ Groundwater was observed at approximately 9 ft. (Elev.= 14.83 ft.) below ground surface 17 days after drilling completion.

GENERAL NOTES:
The bore location and elevation were surveyed by Kleinfelder.

KLEINFELDER
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PROJECT NO.:	20140137
DRAWN BY:	RI
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BORING LOG KE-209

Green Line Extension
Near Washington St
Somerville, MA

PLATE 9

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Date Begin - End:	3/25/2014 - 4/08/2014	**Drilling Company:**	NH Boring	**BORING LOG KE-210**	
Logged By:	J. Almquist/B. Straley	**Drill Crew:**	R. Burn & W. Walsh		
Hor.-Vert. Datum:	NAD83 - NAVD88	**Drilling Equipment:**	M-1 Track Rig	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	30° F, Sunny	**Casing Diameter:**	3 in. O.D.		

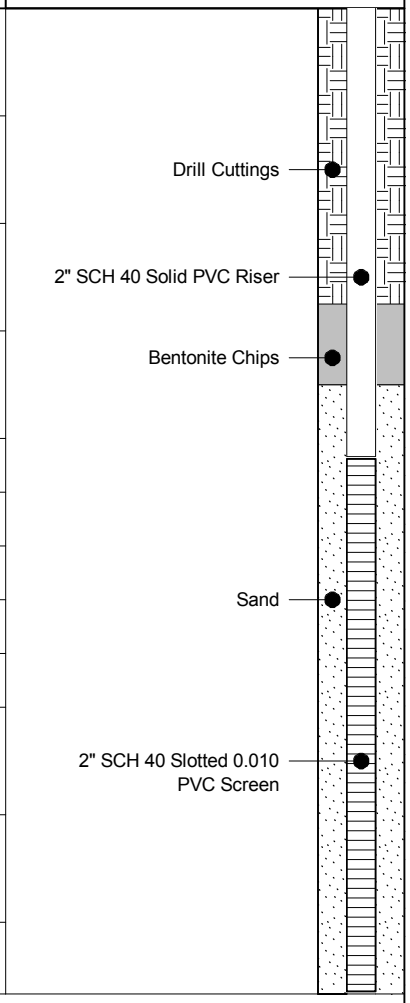
FIELD EXPLORATION

Northing: 2,964,549.848
Easting: 767,181.994
Surveyed Ground Surface Elevation (ft.): 24.53
Surface Condition: Ballast

MONITORING WELL CONSTRUCTION

Completion Method:
Flush mount Cap in concrete

Surveyed Elevation (feet)	Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID (ppmv)	Graphical Log	Lithologic Description
25	0	Hand Auger				0.1		**Fill** **Silty SAND with Gravel (SM)**: non-plastic, brown, moist
20	5					0.8		**Fill** **Silty SAND with Gravel (SM)**: non-plastic, brown, moist
						0.2		**Fill** **Silty SAND (SM)**: non-plastic, gray, moist, wood fragments
				KE-210_6-6.5		0.6		**Fill** **Silty SAND with Gravel (SM)**: non-plastic, gray, moist, wood fragments
						0.7		**Fill** **Silty GRAVEL with Sand (GM)**: non-plastic, gray, moist
15	10	Hollow Stem Auger			11"	0.1		Top 4": **Silty SAND (SM)**: non-plastic, gray, moist
								Bottom 7": **Silty SAND with Gravel (SM)**: non-plastic, brown, wet, occasional lenses of red-brown sand, rock in spoon tip
					16"	11.9		Top 9": **Silty SAND with Gravel (SM)**: non-plastic, brown, wet
								Bottom 7" **LEAN CLAY with Sand**: medium plasticity, gray, wet
10	15				14"	40.9		**Clayey SAND**: non-plastic to medium plasticity, gray with reddish brown and black lenses and rust colored mottling, wet, alternating layers of sand and lean clay
		Mud Rotary		KE-210_15-17	15"	99.6		**Clayey SAND (SC)**: medium plasticity, gray, moist
5	20				1"	6.0		**Clayey GRAVEL (SC)**: non-plastic, gray, wet
0								



The bore was terminated at approximately 18.3 ft. below ground surface. Rock was encountered at a depth of 18.3 ft. during this bore.

GROUNDWATER LEVEL INFORMATION:
▼ Groundwater was observed at approximately 11 ft. (Elev.= 13.68 ft.) below ground surface 8 days after drilling completion.

GENERAL NOTES:
The bore location and elevation were surveyed by Kleinfelder.

KLEINFELDER
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PROJECT NO.:	20140137
DRAWN BY:	RI
CHECKED BY:	BJS
DATE:	4/30/2014
REVISED:	-

BORING LOG KE-210

Green Line Extension
Near Washington St
Somerville, MA

PLATE 10

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BORING LOG KE-211

Date Begin - End:	3/26/2014	**Drilling Company:**	NH Boring		
Logged By:	J. Almquist/B. Straley	**Drill Crew:**	W. Walsh, C. Downing, R. Burn, and M. Dambioso		
Hor.-Vert. Datum:	NAD83 - NAVD88	**Drilling Equipment:**	M-1 Track Rig	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	29° F, Cloudy	**Casing Diameter:**	3 in. O.D.		

FIELD EXPLORATION

Northing: 2,964,725.135
Easting: 767,045.369
Surveyed Ground Surface Elevation (ft.): 22.53
Surface Condition: Vegetation

Surveyed Elevation (feet) / Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID (ppmv)	Graphical Log	Lithologic Description
20 / 5	Hand Auger	☒	KE-211_0-6		0.1		**Fill** **Silty SAND with Gravel (SM)**: non-plastic, brown, moist
		☒			0.2		**Fill** **Silty SAND with Gravel (SM)**: non-plastic, brown, moist
		☒			0.3		**Fill** **Silty SAND (SM)**: non-plastic, brown, moist
15		☒			0.3		**Fill** **Poorly-graded SAND with Silt (SP-SM)**: non-plastic, brown, moist
▽ 10	Hollow Stem Auger			16"	0.2		**Fill** **Poorly-graded SAND (SP)**: non-plastic, brown, wet
10 / 15				24"	0.8		**Fill** **Poorly-graded SAND (SP)**: non-plastic, brown, wet
5 / 20				20"	0.2		**Fill** **Well-graded SAND with Gravel (SP)**: non-plastic, brown, wet
0			KE-211_24-25	13"	0.4		**Fill** **Poorly-graded SAND with Silt (SP-SM)**: non-plastic, brown, wet, occasional gravel pockets

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20140137
DRAWN BY:	RI
CHECKED BY:	BJS
DATE:	4/30/2014
REVISED:	-

BORING LOG KE-211

Green Line Extension
Near Washington St
Somerville, MA

PLATE 11

KLEINFELDER - 215 First Street, Suite 320 | Cambridge, MA 02142 | PH: 617.497.7800 | FAX: 617.498.4630 | www.kleinfelder.com

gINT FILE: G:_clients\mbta\20111035.01 - Green Line Extension\08 Environmental\documents\cvoc Contamination - Tufts St And Washington\boring Logs\washington St Area Logs.gpj R:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_ENVIRONMENTAL LOG]

Date Begin - End:	3/26/2014	**Drilling Company:**	NH Boring	**BORING LOG KE-211**	
Logged By:	J. Almquist/B. Straley	**Drill Crew:**	W. Walsh, C. Downing, R. Burn, and M. Dambioso		
Hor.-Vert. Datum:	NAD83 - NAVD88	**Drilling Equipment:**	M-1 Track Rig	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	29° F, Cloudy	**Casing Diameter:**	3 in. O.D.		

FIELD EXPLORATION

Surveyed Elevation (feet) / Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID (ppmv)	Graphical Log	Lithologic Description
							Northing: 2,964,725.135 Easting: 767,045.369 Surveyed Ground Surface Elevation (ft.): 22.53 Surface Condition: Vegetation
-5	Hollow Stem Auger						**Fill** **Poorly-graded SAND with Silt (SP-SM)**: non-plastic, brown, wet, occasional gravel pockets
30				NR			
-10							
35							
-15							
40							
-20							
45							
-25							

The bore was terminated at approximately 30 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
▽ Groundwater was observed at approximately 9 ft. (Elev.= 13.53 ft.) below ground surface during drilling.

GENERAL NOTES:
The bore location and elevation were surveyed by Kleinfelder.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20140137
DRAWN BY:	RI
CHECKED BY:	BJS
DATE:	4/30/2014
REVISED:	-

BORING LOG KE-211

Green Line Extension
Near Washington St
Somerville, MA

PLATE 12

PAGE: 2 of 2

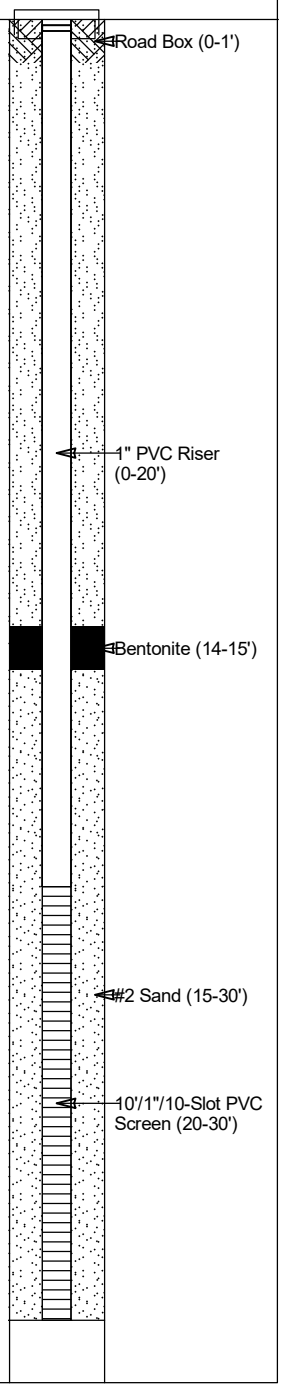
gINT FILE: G:_clients\mbta\20111035.01 - Green Line Extension\08 Environmental\documents\cvoc Contamination - Tufts St And Washington\boring Logs\washington St Area Logs.gpj R:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_ENVIRONMENTAL LOG]

2 Liberty Square
6th Floor
Boston, MA
Telephone: 617-350-3444
Fax: 617-350-3443

BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 310142.0002
BORING/WELL NUMBER WASH-MW-2
TRC GEOLOGIST Greg Pearsall
SCREEN TYPE/SLOT 1"/PVC/10-Slot
DRILLING CONTRACTOR/FOREMAN NEBC/Carl Downing
FILTER PACK TYPE #2 Sand
DATE DRILLED 8/6/2020
SEAL TYPE Bentonite
LOCATION Washington Street
SAMPLING METHOD 60" Macrocore
EXCAVATION METHOD Geoprobe Direct Push
TOTAL DEPTH (Feet) 30
NOTES

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	PID (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM



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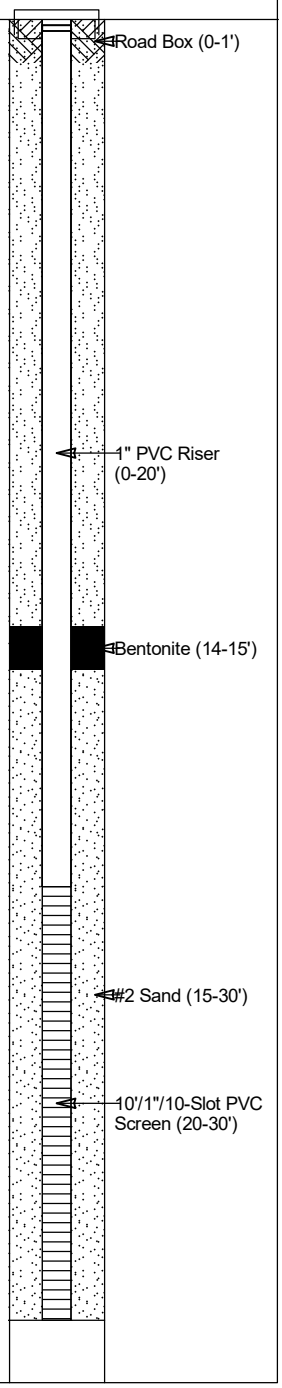
6th Floor
Boston, MA
Telephone: 617-350-3444
Fax: 617-350-3443

BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 310142.0002
BORING/WELL NUMBER WASH-MW-4
TRC GEOLOGIST Hannah Barnes
SCREEN TYPE/SLOT 1"/PVC/10-Slot
DRILLING CONTRACTOR/FOREMAN NEBC/Carl Downing
FILTER PACK TYPE #2 Sand
DATE DRILLED 8/18/2020
SEAL TYPE Bentonite
LOCATION Washington Street
SAMPLING METHOD 60" Macrocore
EXCAVATION METHOD Geoprobe Direct Push
TOTAL DEPTH (Feet) 30
NOTES

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	PID (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM



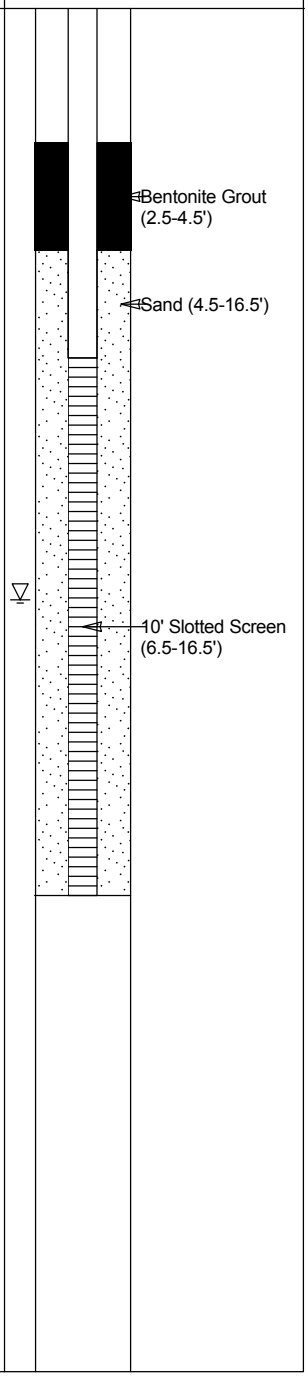
650 Suffolk Street
Lowell, MA
Telephone: 978-970-5600
Fax: 978-453-1995

BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 163 Glen Street/212867
BORING/WELL NUMBER TRC-1
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN NEG/Maynor
DATE DRILLED 1/20/2014
LOCATION Approximately 43.5' N of GEO-3
SAMPLING METHOD Continuous- 60" Macrocore
DRILLING METHOD Direct Push-7822 DT
NOTES Sampled for VOC, EPH Carbon ranges, PAH, and MCP-14 Metals.

SCREEN TYPE/SLOT 2" Schedule 40 slotted PVC
FILTER PACK TYPE Sand Pack
SEAL TYPE Bentonite
DEPTH TO WATER (Approximate Feet) 11
TOTAL DEPTH (Feet) 19
GROUND ELEVATION (Feet) TBD
REFERENCE ELEVATION (Feet) TBD

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME
0	NA	60/30	S-1		0-4" Crushed ASPHALT.	OS: 0.0 HS: 0.0	
1					4-22" Brown to tan fine to medium SAND, some angular gravel, some silt, wet (perched).		
2							
3							
4					22-26" White-gray crushed CONCRETE.		
4					26-30" Brown fine SAND, SILT and angular GRAVEL with a peat-like texture.	OS: 0.0 HS: 0.0	TRC-1(0-8/11') 0915
5		60/20	S-2		0-20" Tan fine to medium SAND, some angular to subrounded gravel.	OS: 0.0 HS: 0.0	
6							
7							
8							
9						OS: 0.0 HS: 0.0	
10		60/40	S-3		0-40" Tan fine to medium SAND, some gravel, dense, till-like, moist.	OS: 0.0	
11							
12							
13							
14						OS: 0.0 HS: 0.0	
15		48/48	S-4		0-48" Tan fine to medium SAND, some gravel, dense, till-like, saturated.	OS: 0.0 HS: 0.0	
16							
17							
18						OS: 2.6 HS: 6.2	
19					End of Boring @ 19 feet.		



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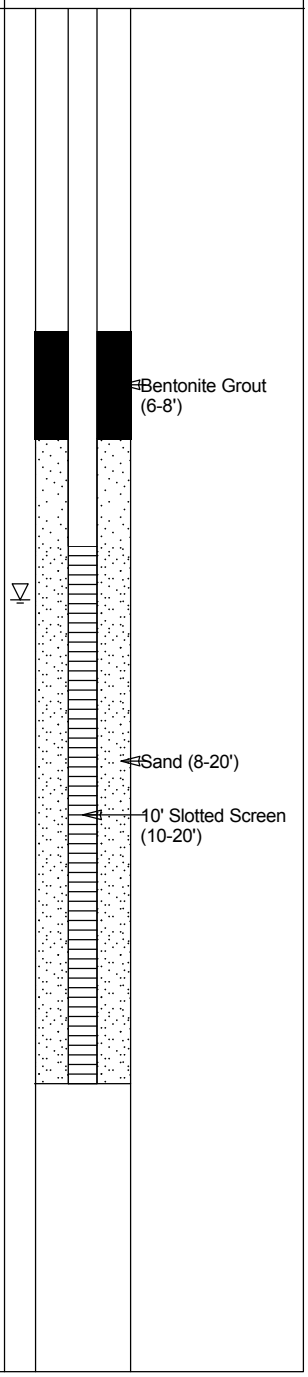
BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 163 Glen Street/212867
BORING/WELL NUMBER TRC-2
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN NEG/Maynor
DATE DRILLED 1/20/2014
LOCATION Approximately 11' SW of light post in parking lot.
SAMPLING METHOD Continuous- 60" Macrocore
DRILLING METHOD Direct Push-7822 DT
SCREEN TYPE/SLOT 2" Schedule 40 slotted PVC
FILTER PACK TYPE Sand Pack
SEAL TYPE Bentonite
DEPTH TO WATER (Approximate Feet) 11
TOTAL DEPTH (Feet) 20
GROUND ELEVATION (Feet) TBD
REFERENCE ELEVATION (Feet) TBD
NOTES Sampled for VOC, EPH Carbon ranges, PAH, and MCP-14 Metals.

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME
0	NA	60/38	S-1	0-5" Crushed ASPHALT.	OS: 0.0	
1				5-8" Tan fine to medium SAND.		
2				8-20" Brown to olive fine SAND and SILT, trace gravel.		
3				20-32" Tan to olive SILT and CLAY, dense.		
4				32-35" Brown peat-like SILT.	OS: 0.0	TRC-2(0-8/11') 1040
5				35-38" Tan fine to medium SAND and GRAVEL.		
		60/45	S-2	0-30" Tan SILT and CLAY, dense, some trace gravel.	OS: 0.0	
6						
7						
8				30-45" Tan fine to medium SAND, some gravel.		
9					OS: 0.0	
10					HS: 0.7	
		60/35	S-3	0-35" Tan fine SAND, some silt, trace medium gravel.	OS: 0.0	
11					HS: 4.2	
12						
13						
14					OS: 0.0	
15					HS: 10.2	
		60/30	S-4	0-30" Tan fine to medium SAND, saturated.	OS: 0.0	
16					HS: 17.3	
17						
18						
19					OS: 2.3	
20					HS: 9.9	
				End of Boring @ 20 feet.		



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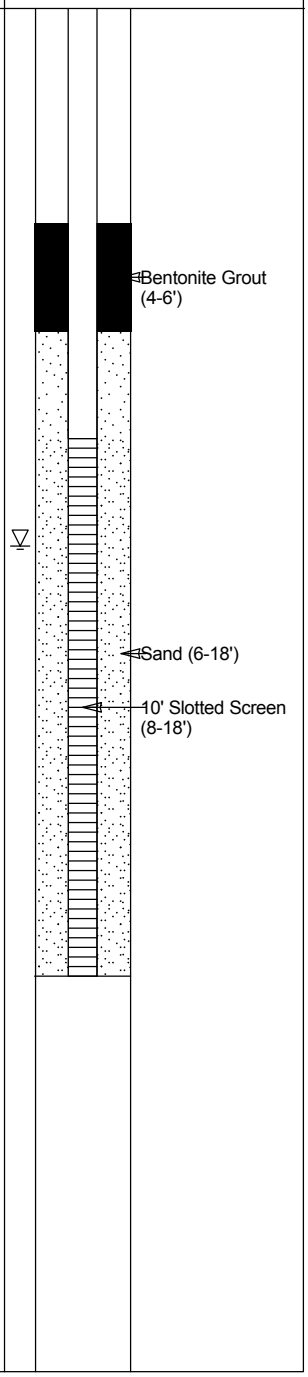
BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 163 Glen Street/212867
BORING/WELL NUMBER TRC-3
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN NEG/Maynor
DATE DRILLED 1/20/2014
LOCATION Approximately 67' NE of TRC-1
SAMPLING METHOD Continuous- 60" Macrocore
DRILLING METHOD Direct Push-7822 DT
NOTES Sampled for VOC, EPH Carbon ranges, PAH, and MCP-14 Metals.

SCREEN TYPE/SLOT 2" Schedule 40 slotted PVC
FILTER PACK TYPE Sand Pack
SEAL TYPE Bentonite
DEPTH TO WATER (Approximate Feet) 10
TOTAL DEPTH (Feet) 20
GROUND ELEVATION (Feet) TBD
REFERENCE ELEVATION (Feet) TBD

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME
0	NA	60/35	S-1		0-3" Crushed ASPHALT.	OS: 0.0	
1					3-8" Tan medium SAND.		
2					8-18" Brown to plack fine to medium SAND, some gravel.		
3					18-26" Tan to gray SILT and CLAY, dense.		
4					26-28" Crushed red BRICK.		
					28-35" Brown medium SAND.	OS: 0.0	TRC-3(0-8/10') 1200
5		60/35	S-2		0-20" Tan SILT and CLAY, very dense.	OS: 0.0	
6							
7							
8					20-35" Tan fine SAND and SILT, some angular gravel, very dense [TILL].		
9						OS: 0.0	
10		60/60	S-3		0-60" Tan fine SAND and SILT, some angular to subangular gravel, moist to wet, very dense.	OS: 0.3	
11							
12							
13							
14						OS: 6.5	
15		60/45	S-4		0-45" Tan fine to coarse SAND and SILT, some gravel, saturated.	OS: 0.3	
16							
17							
18							
19						OS: 0.6	
20					End of Boring @ 20 feet.		



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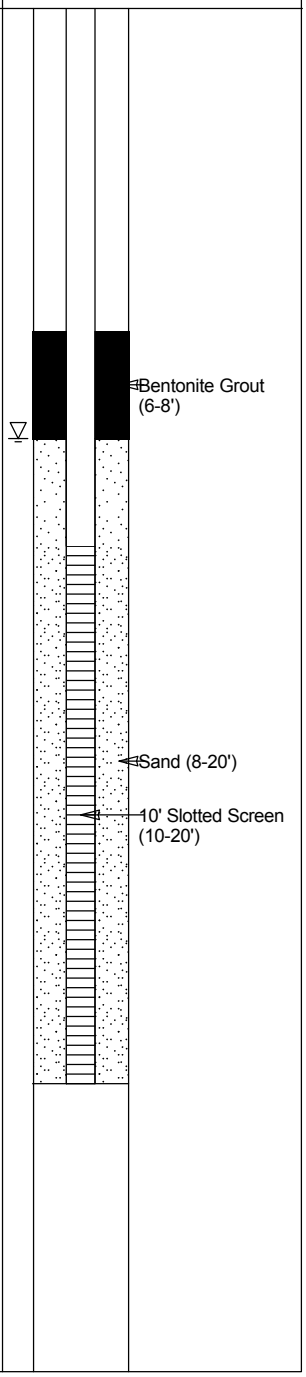
BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 163 Glen Street/212867
BORING/WELL NUMBER TRC-4
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN NEG/Maynor
DATE DRILLED 1/20/2014
LOCATION Northeastern end of building, 11.5 ft NW Glen St
SAMPLING METHOD Continuous- 60" Macrocore
DRILLING METHOD Direct Push-7822 DT
NOTES Sampled for VOC, EPH Carbon ranges, PAH, and MCP-14 Metals.

SCREEN TYPE/SLOT 2" Schedule 40 slotted PVC
FILTER PACK TYPE Sand Pack
SEAL TYPE Bentonite
DEPTH TO WATER (Approximate Feet) 8
TOTAL DEPTH (Feet) 20
GROUND ELEVATION (Feet) TBD
REFERENCE ELEVATION (Feet) TBD

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME
0	NA	60/55	S-1		0-2" ASPHALT.	OS: 0.0	
1					2-12" Brown fine to medium SAND and SILT, trace brick fragments.		
2					12-55" Tan SILT, some clay, dense.		
3							
4						OS: 0.0	TRC-4(0-8/8') 1400
5		60/60	S-2		0-25" Tan SILT, some clay, dense.	OS: 0.0	
6							
7					25-60" Tan to gray CLAY, some silt, moist.		
8							
9						OS: 0.0	
10		60/40	S-3		0-15" Tan to gray CLAY, some silt.	OS: 0.0	
11							
12					15-40" Tan SILT, some fine sand, some clay, some gravel, moist, very dense.		
13							
14						OS: 0.0	
15		60/40	S-4		0-40" Tan fine to medium SAND, some gravel, some silt, dense.	OS: 0.0	
16							
17							
18							
19						OS: 8.9	
20					End of Boring @ 20 feet.		



Drilling Company: *Harvey Associates*
Drilling Foreman: *Doug*
EBI Geologist/Scientist: *B. White*
Drilling Method: *Directpush*
Borehole Diameter: *2"*

Date Started: *5/9/2012*
Date Ended: *5/9/2012*
Project Location: *Somerville, MA*
Project Number: *12120128*
Sheet: *1 of 1*

Log of Borehole: EB-1

EBI Consulting
21 B Street
Burlington, MA

SUBSURFACE PROFILE			SAMPLE					
Depth	Description	Strata	No.	Rec.	SPT Blows	Type	FID/PID Readings (ppm) 100 300	Well Construction
	Asphalt							Temp well set at 12'
	Tan, f. SAND and SILT, dry							
1								
	Black/gray, fn. SAND and SILT, crs sand, gravel, brick, dry		S-1	3.5	NA	Core	0	
2								
3								
4	Black/gray, fn. SAND and SILT, crs sand, gravel, brick, dry Sample collected: 6-8'		S-2	2	NA	Core	0	
5								
6								
7								
8	Gray, CLAY, damp, petroleum odor		S-3	3	NA	Core	0	
9								
10								
11								
12								
13								
14								

Drilling Company: *Harvey Associates*
Drilling Foreman: *Doug*
EBI Geologist/Scientist: *B. White*
Drilling Method: *Directpush*
Borehole Diameter: *2"*

Date Started: *5/9/2012*
Date Ended: *5/9/2012*
Project Location: *Somerville, MA*
Project Number: *12120128*
Sheet: *1 of 1*

Log of Borehole: EB-2

EBI Consulting
21 B Street
Burlington, MA

SUBSURFACE PROFILE			SAMPLE					Well Construction
Depth	Description	Strata	No.	Rec.	SPT Blows	Type	FID/PID Readings (ppm) 100 300	
0	Asphalt							
1	Tan/Gray, fn. SAND and SILT, cobbles, wood fragments, slight petroleum odor, dry							
2	sample colleted: 2-4'		S-1	2.5	NA	Core	0	
3								
4	Boring refusal encountered at multiple locations							
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								

Drilling Company: *Harvey Associates*
Drilling Foreman: *Doug*
EBI Geologist/Scientist: *B. White*
Drilling Method: *Directpush*
Borehole Diameter: *2"*

Date Started: *5/9/2012*
Date Ended: *5/9/2012*
Project Location: *Somerville, MA*
Project Number: *12120128*
Sheet: *1 of 1*

Log of Borehole: EB-3

EBI Consulting
21 B Street
Burlington, MA

SUBSURFACE PROFILE			SAMPLE					Well Construction
Depth	Description	Strata	No.	Rec.	SPT Blows	Type	FID/PID Readings (ppm) 100 300	
0	Asphalt							
1	Brown, fn. SAND and SILT, gravel, clay, cobbles, dry		S-1	4	NA	Core	0	
4	Black/gray, CLAY, fn. sand, some coal, dry		S-2	3.5	NA	Core	0	
8	Gray, CLAY, petroleum odor, damp Sample collected: 8-10'		S-3	4	NA	Core	0	
12	Tan, CLAY, dense, damp Refusal @ 15'		S-4	3	NA	Core	0	
15								

Drilling Company: *Harvey Associates*
Drilling Foreman: *Doug*
EBI Geologist/Scientist: *B. White*
Drilling Method: *Directpush*
Borehole Diameter: *2"*

Date Started: *5/9/2012*
Date Ended: *5/9/2012*
Project Location: *Somerville, MA*
Project Number: *12120128*
Sheet: *1 of 1*

Log of Borehole: EB-4

EBI Consulting
21 B Street
Burlington, MA

SUBSURFACE PROFILE			SAMPLE					
Depth	Description	Strata	No.	Rec.	SPT Blows	Type	FID/PID Readings (ppm) 100 300	Well Construction
	Asphalt							Temp well set @ 16'
1	Black/gray, fn. sand, tr. clay, cobbles, rock, dry							
2			S-1	3.5	NA	Core	0	
3								
4	Black/brown, fn. SAND and SILT, cobbles, rocks, dry							
5								
6			S-2	2.5	NA	Core	4	
7								
8	Black, fn.-med. SAND, petroleum odor, wet @ 10'							
9								
10	Sample collected: 8-10'		S-3	2.5	NA	Core	210	
11								
12	Gray, fn.-med. SAND, some silt, petroleum odor, wet							
13							45	
14			S-4	3.5	NA	Core		
15								
16								

Drilling Company: *Harvey Associates*
Drilling Foreman: *Doug*
EBI Geologist/Scientist: *B. White*
Drilling Method: *Directpush*
Borehole Diameter: *2"*

Date Started: *5/9/2012*
Date Ended: *5/9/2012*
Project Location: *Somerville, MA*
Project Number: *12120128*
Sheet: *1 of 1*

Log of Borehole: EB-5

EBI Consulting
21 B Street
Burlington, MA

SUBSURFACE PROFILE			SAMPLE					
Depth	Description	Strata	No.	Rec.	SPT Blows	Type	FID/PID Readings (ppm) 100 300	Well Construction
0	Grass							
1	Black/brown, fn.-med. SAND, silt, gravel, brick, concrete, coal, wood, cobbles, dry		S-1	3	NA	Core	0	
4	Brick							
5	Black/brown, fn.-med. SAND, silt, gravel, brick, concrete, coal, wood, cobbles, dry		S-2	2	NA	Core	0	
8	Black/brown, fn.-med. SAND, some clay, cobbles, wet @ 12' Sample collected: 10-12'		S-3	3	NA	Core	0	
12								
16								

Drilling Company: *Harvey Associates*
Drilling Foreman: *Doug*
EBI Geologist/Scientist: *B. White*
Drilling Method: *Directpush*
Borehole Diameter: *2"*

Date Started: *10/16/2012*
Date Ended: *10/16/2012*
Project Location: *Somerville, MA*
Project Number: *12120277*
Sheet: *1 of 1*

Log of Borehole: EB-202

EBI Consulting
21 B Street
Burlington, MA

SUBSURFACE PROFILE			SAMPLE					Well Construction
Depth	Description	Strata	No.	Rec.	SPT Blows	Type	FID/PID Readings (ppm) 100 300	
	Brown, fn.-med. SAND, some gravel, dry							
1	Crushed concrete							
2	Black/gray, fn. SAND, some silt, dense, asphalt, rock, concrete, dry, petroleum odor		S-1	3	NA	Core	4	
3	sample collected: 3-5'							
4	Black/gray, fn. SAND, some silt, dense, asphalt, rock, concrete, dry							
5	Boring refusal @ 5.5'		S-2	2	NA	Core	2	
6								
7								
8								
9								
10								
11								
12								
13								
14								

Drilling Company: *Harvey Associates*
Drilling Foreman: *Doug*
EBI Geologist/Scientist: *B. White*
Drilling Method: *Directpush*
Borehole Diameter: *2"*

Date Started: *10/16/2012*
Date Ended: *10/16/2012*
Project Location: *Somerville, MA*
Project Number: *12120277*
Sheet: *1 of 1*

Log of Borehole: EB-203

EBI Consulting
21 B Street
Burlington, MA

SUBSURFACE PROFILE			SAMPLE					Well Construction
Depth	Description	Strata	No.	Rec.	SPT Blows	Type	FID/PID Readings (ppm) 100 300	
1	Brown, fn.-med. SAND, trace gravel, dry							
2	Crushed stone, asphalt		S-1	3	NA	Core	0	
3	Black, fn.-med. SAND, some silt, tr. clay, asphalt, cobbles, dry sample collected: 2-4'							
4	Black/gray, fn. SAND, some silt, some clay, dry							
5								
6			S-2	2	NA	Core	0	
7	Black, fn. SAND, some silt, wet @ 8' Sample B: 6-8'							
8								
9								
10								
11								
12								
13								
14								

Drilling Company: *Harvey Associates*
Drilling Foreman: *Doug*
EBI Geologist/Scientist: *B. White*
Drilling Method: *Directpush*
Borehole Diameter: *2"*

Date Started: *10/16/2012*
Date Ended: *10/16/2012*
Project Location: *Somerville, MA*
Project Number: *12120277*
Sheet: *1 of 1*

Log of Borehole: EB-204

EBI Consulting
21 B Street
Burlington, MA

SUBSURFACE PROFILE			SAMPLE					Well Construction
Depth	Description	Strata	No.	Rec.	SPT Blows	Type	FID/PID Readings (ppm) 100 300	
	Brown, fn.-med. SAND, trace silt, dry							
1								
2	Gray/black, fn. SAND, some silt, tr. gravel, slight petro odor sample: 2-4'		S-1	2	NA	Core	0	
3								
4	Brown, fn. SAND, some silt, damp @ 7'							
5								
6			S-2	2	NA	Core	0	
7								
8								
9								
10								
11								
12								
13								
14								

Drilling Company: *Harvey Associates*
Drilling Foreman: *Doug*
EBI Geologist/Scientist: *B. White*
Drilling Method: *Directpush*
Borehole Diameter: *2"*

Date Started: *10/16/2012*
Date Ended: *10/16/2012*
Project Location: *Somerville, MA*
Project Number: *12120277*
Sheet: *1 of 1*

Log of Borehole: EB-206

EBI Consulting
21 B Street
Burlington, MA

SUBSURFACE PROFILE			SAMPLE					Well Construction
Depth	Description	Strata	No.	Rec.	SPT Blows	Type	FID/PID Readings (ppm) 100 300	
	Grass							
1	Dark brown, fn. SAND, some silt, dry							
2	Black, crs. SAND, some gravel, rock, asphalt, ash, coal		S-1	3	NA	Core	0	
3								
4	Black, crs. SAND, some gravel, rock, asphalt, ash, coal							
5	sample collected: 3-5'							
6	Crushed stone		S-2	2	NA	Core	0	
7	Brown, fn.-med. SAND, some silt, damp							
8								
9								
10								
11								
12								
13								
14								

Drilling Company: *Harvey Associates*
Drilling Foreman: *Doug*
EBI Geologist/Scientist: *B. White*
Drilling Method: *Directpush*
Borehole Diameter: *2"*

Date Started: *10/16/2012*
Date Ended: *10/16/2012*
Project Location: *Somerville, MA*
Project Number: *12120277*
Sheet: *1 of 1*

Log of Borehole: EB-207

EBI Consulting
21 B Street
Burlington, MA

SUBSURFACE PROFILE			SAMPLE					
Depth	Description	Strata	No.	Rec.	SPT Blows	Type	FID/PID Readings (ppm) 100 300	Well Construction
	Grass							
1	Dark brown, fn. SAND, some silt, dry							
	Crushed brick							
2	Black, fn. SAND, some silt, tr. crs. sand, brick, gravel, dry		S-1	3	NA	Core	0	
3								
4	Black, fn. SAND, some silt, tr. crs. sand, brick, gravel, wood, asphalt, dry							
5								
6			S-2	3	NA	Core	0	
7								
8	Black, fn. SAND, some silt, tr. crs. sand, brick, gravel, wood, asphalt, damp @ 12'							
9								
	sample collected: 8-10'							
10			S-3	3	NA	Core	0	
11								
12								
13								
14								

EBI Consulting
environmental | engineering | due diligence
21 B Street, Burlington, MA 01803

Project Number: 12140021

Excavating Co: J. Masterson

Project Location: Cobble Hill
84 & 90 Washington Street
Somerville Massachusetts

Equipment: Cat 370D

Date: 02/19/2014

EBI Scientist: Daniel Bellucci

TP-01

Scale in Feet	Description
0 to 8	Fill material -Major components include SAND (Fine to coarse), large gravel, large concrete and aspahlt fragments, brown, dry Minor components include potential coal/wood ash, organic material (roots) and topsoil *Note- Excavation of concrete and asphalt difficult based on thickness and size of material
8 to 8.5	Fill and Native material - Fine SAND with some small gravel and marine deposits; intermitten coal, *Note- Water intrustion at 8.5 feet bgs due to void space in filll material (Perched water) **Note- Excavation terminated at 8.5 feet bgs- Dense material, cannot excavate further

bgs- below ground surface

EBI Consulting
environmental | engineering | due diligence
21 B Street, Burlington, MA 01803

Project Number: 12140021

Excavating Co: J. Masterson

Project Location: Cobble Hill
84 & 90 Washington Street
Somerville Massachusetts

Equipment: Cat 370D

Date: 02/19/2014

EBI Scientist: Daniel Bellucci

TP-02

Scale in Feet	Description
0 to 9	Fill material- Major components include SAND (Fine to coarse), large gravel; concrete, topsoil and brick Minor components include potential coal/wood ash, wood/organic matter, metal fragments and plastic conduit, glass *Note- Excavation terminated at 9 feet bgs- Dense material, cannot excavate further (Brick)

bgs- below ground surface

EBI Consulting
environmental | engineering | due diligence
21 B Street, Burlington, MA 01803

Project Number: 12140021

Excavating Co: J. Masterson

Project Location: Cobble Hill
84 & 90 Washington Street
Somerville Massachusetts

Equipment: Cat 370D

Date: 02/19/2014

EBI Scientist: Daniel Bellucci

TP-03

Scale in Feet	Description
0 to 9	Fill material- Major components include SAND (Fine to coarse), large gravel; large concrete Minor components include potential coal/wood ash, asphalt, wood/organic matter, paper, metal wires, sheet plastic, one tire, coal slag, and plastic conduit *Note- Water intrustion at 6 feet bgs due to void space in filll material (Perched water) **Note- Excavation terminated at 9 feet bgs- Large boulder

bgs- below ground surface

EBI Consulting
environmental | engineering | due diligence
21 B Street, Burlington, MA 01803

Project Number: 12140021

Excavating Co: J. Masterson

Project Location: Cobble Hill
84 & 90 Washington Street
Somerville Massachusetts

Equipment: Cat 370D

Date: 02/19/2014

EBI Scientist: Daniel Bellucci

TP-04	
Scale in Feet	Description
0 to 7	Fill material- Major components include SAND (Fine to coarse), large gravel; large concrete Minor components include potential coal/wood ash, wood/organic matter, metal wires and coal slag *Note- Excavation terminated at 7 feet bgs- Large concrete pieces

bgs- below ground surface

EBI Consulting
environmental | engineering | due diligence
21 B Street, Burlington, MA 01803

Project Number: 12140021

Excavating Co: J. Masterson

Project Location: Cobble Hill
84 & 90 Washington Street
Somerville Massachusetts

Equipment: Cat 370D

Date: 02/19/2014

EBI Scientist: Daniel Bellucci

TP-08

Scale in Feet	Description
0 to 5	Fill material- Major components include SAND (medium to coarse), large gravel, concrete and brick Minor components include topsoil, potential coal/wood ash, glass, coal slag, metal fragments, asphalt and Belgian Block pavers ***Note- Slight petroleum odor (No. 2 Fuel Oil) throughout: PID= 0.7 ppm (0-4 feet bgs)** **Note- Excavation terminated at 5 feet bgs- Dense material, cannot excavate further

bgs- below ground surface

TEST BORING LOG

(page 1 of 6)

IES, INC.
ENVIRONMENTAL CONSULTANTS

Project 2017-02-0115
103 Washington St.
Somerville, MA

Boring ID:
IES-1

Date Started: 4/6/17	Geologist: John Beck	Drilling Contractor: TDS
Date Finished: 4/6/17	Project Manager: John Beck	

Depth (feet)	Casing bl/ft	Sample No.	Sample OVM	Sample Depth	Sample Blows/6”	Strata	Visual Identification of Soil and/or Rock Sample
							Asphalt
1		S-1	0	0’-5’0”			(rec. 2.5’) Damp, gy, sandy fill w/ gravel.
5		S-2	121	5’0”-10’0”		15’	(rec. 2’) 6” of wet, coarse gy sd w/ angular red and green gravel, over 1.5’ wet, very coarse angular green and red gravel w/ gasoline odor and sheen.
10		S-3	235	10’0”-15’0”			(rec. 1’) Wet, green and red, coarse angular gravel w/ gasoline odor and sheen.
15							End of probe at 15’ 0” Groundwater encountered at approx. 5’6’’. Monitoring well set at 13’.
20							
25							
30							

Rig: Track-mounted, percussion hammer driving system (geoprobe)
Sampling Equipment: $1^{3}/_{8}$” diameter stainless-steel sampling tube.
OVM = Organic Vapor Meter (parts per million - calibrated to benzene standard).

Cohesionless: 0-4 = Very Loose; 4-10 = Loose; 10-30 = Medium Dense; 30-50 = Dense; 50+ = Very Dense Cohesive: 0-2 = Very Soft; 2-4 = Soft; 4-8 = Medium Stiff; 8-15 = Stiff; 15-30 = Very Stiff; 30+ = Hard	Trace: 0% – 10% Little: 10% – 20% Some: 20% – 35% And: 35% – 50%

TEST BORING LOG

(page 2 of 6)

IES, INC.
ENVIRONMENTAL CONSULTANTS

Project 2017-02-0115
103 Washington St.
Somerville, MA

Boring ID:
IES-2

Date Started: 4/6/17	Geologist: John Beck	Drilling Contractor: TDS
Date Finished: 4/6/17	Project Manager: John Beck	

Depth (feet)	Casing bl/ft	Sample No.	Sample OVM	Sample Depth	Sample Blows/6”	Strata	Visual Identification of Soil and/or Rock Sample
							Asphalt
1		S-1	0	0’0”-5’0”			(rec. 2.5’) Dry sandy fill over dry to dam, gy clay with iron mottling.
5		S-2	0	5’0”-10’0”		15’	(rec. 5’) Dry, greenish gy, dense clay.
10		S-3	0	10’0”- 15’0”			(rec. 4’) Dry, greenish gy, dense clay w/ occ. large, angular rocks.
15							End of probe at 15’ 0” Groundwater table unknown. Monitoring well set at 13’.
20							
25							
30							
35							

Rig: Track-mounted, percussion hammer driving system (geoprobe)
Sampling Equipment: $1^{3}/_{8}$” diameter stainless-steel sampling tube.
OVM = Organic Vapor Meter (parts per million - calibrated to benzene standard).

Cohesionless: 0-4 = Very Loose; 4-10 = Loose; 10-30 = Medium Dense; 30-50 = Dense; 50+ = Very Dense Cohesive: 0-2 = Very Soft; 2-4 = Soft; 4-8 = Medium Stiff; 8-15 = Stiff; 15-30 = Very Stiff; 30+ = Hard	Trace: 0% – 10% Little: 10% – 20% Some: 20% – 35% And: 35% – 50%

TEST BORING LOG

(page 3 of 6)

IES, INC.
ENVIRONMENTAL CONSULTANTS

Project 2017-02-0115
103 Washington St.
Somerville, MA

Boring ID:
B-3

Date Started: 4/6/17	Geologist: John Beck	Drilling Contractor: TDS
Date Finished: 4/6/17	Project Manager: John Beck	

Depth (feet)	Casing bl/ft	Sample No.	Sample OVM	Sample Depth	Sample Blows/6"	Strata	Visual Identification of Soil and/or Rock Sample
1		S-1	9	0'0"-2'5"		2.5'	Asphalt (rec. 1') Damp, gy to brn, sandy fill w/ slight oily odor.
5							End of probe at 2' 5". Groundwater not encountered. Rock refusal at 2'5"
10							
15							
20							
25							
30							

Rig: Track-mounted, percussion hammer driving system (geoprobe)
Sampling Equipment: $1^{3}/_{8}$" diameter stainless-steel sampling tube.
OVM = Organic Vapor Meter (parts per million - calibrated to benzene standard).

Cohesionless: 0-4 = Very Loose; 4-10 = Loose; 10-30 = Medium Dense; 30-50 = Dense; 50+ = Very Dense Cohesive: 0-2 = Very Soft; 2-4 = Soft; 4-8 = Medium Stiff; 8-15 = Stiff; 15-30 = Very Stiff; 30+ = Hard	Trace: 0% – 10% Little: 10% – 20% Some: 20% – 35% And: 35% – 50%

TEST BORING LOG

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IES, INC.
ENVIRONMENTAL CONSULTANTS

Project 2017-02-0115
103 Washington St.
Somerville, MA

Boring ID:
IES-4

Date Started: 4/6/17	Geologist: John Beck	Drilling Contractor: TDS
Date Finished: 4/6/17	Project Manager: John Beck	

Depth (feet)	Casing bl/ft	Sample No.	Sample OVM	Sample Depth	Blows/6”	Strata	Visual Identification of Soil and/or Rock Sample
1		S-1	46	0’0”-2’6”			Asphalt (rec. 2’) 6” asphalt over 1.5’ of dry, greenish-gy, coarse, sandy fill.
		S-2	154	2’6” - 5’0”			(rec. 2’) 2’ of damp, gy clay w/ gasoline odor.
5		S-3	204	5’0”-7’6”		15’	(rec. 2’) Dry, greenish-gy, dense clay w/ strong gasoline odor.
		S-4	738	7’6”-10’0”			(rec. 2’) Dry, greenish-gy. dense clay w/ strong gasoline odor.
10		S-5	854	10’0”-15’0”			(rec. 3’) 1’ of dense, dry, greenish gy clay w/ gasoline odor over 2’ damp, sandy, yellowish gy clay w/ strong gasoline odor.
15							End of probe at 15’ 0”. Groundwater depth unknown. Monitoring well set at 13’.
20							.
25							
30							
35							

Rig: Track-mounted, percussion hammer driving system (geoprobe)
Sampling Equipment: $1^{3}/_{8}$” diameter stainless-steel sampling tube.
OVM = Organic Vapor Meter (parts per million - calibrated to benzene standard).

Cohesionless: 0-4 = Very Loose; 4-10 = Loose; 10-30 = Medium Dense; 30-50 = Dense; 50+ = Very Dense Cohesive: 0-2 = Very Soft; 2-4 = Soft; 4-8 = Medium Stiff; 8-15 = Stiff; 15-30 = Very Stiff; 30+ = Hard	Trace: 0% – 10% Little: 10% – 20% Some: 20% – 35% And: 35% – 50%

TEST BORING LOG

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IES, INC.
ENVIRONMENTAL CONSULTANTS

Project 2017-02-0115
103 Washington St.
Somerville, MA

Boring ID:
IES-5

Date Started: 4/6/17	Geologist: John Beck	Drilling Contractor: TDS
Date Finished: 4/6/17	Project Manager: John Beck	

Depth (feet)	Casing bl/ft	Sample No.	Sample OVM	Sample Depth	Blows/6”	Strata	Visual Identification of Soil and/or Rock Sample
							Asphalt
1		S-1	4	0’0”-5’0”			(rec. 1.5’) 6” sandy fill w/ brick and asphalt, over 6” dark gy, damp, clay-rich sandy fill, over 6” dense, gy, clay w/ iron streaks.
5		S-2	1	5’0”-7’6”		15’	(rec. 2.5’) Dry, greenish-gy, dense clay w/ slight gasoline odor.
		S-3	2	7’6”-10’0”			(rec. 2.5’) Dry, greenish-gy, dense clay w/ slight gasoline odor.
10		S-4	2	10’0”-15’0”			(rec. 3’) Dry, greenish-gy, dense clay w/ slight gasoline odor.
15							End of probe at 15’ 0”. Groundwater depth unknown. Monitoring well set at 13’.
20							.
25							
30							

Rig: Track-mounted, percussion hammer driving system (geoprobe)
Sampling Equipment: $1^{3}/_{8}$” diameter stainless-steel sampling tube.
OVM = Organic Vapor Meter (parts per million - calibrated to benzene standard).

Cohesionless: 0-4 = Very Loose; 4-10 = Loose; 10-30 = Medium Dense; 30-50 = Dense; 50+ = Very Dense Cohesive: 0-2 = Very Soft; 2-4 = Soft; 4-8 = Medium Stiff; 8-15 = Stiff; 15-30 = Very Stiff; 30+ = Hard	Trace: 0% – 10% Little: 10% – 20% Some: 20% – 35% And: 35% – 50%

TEST BORING LOG

(page 6 of 6)

IES, INC.
ENVIRONMENTAL CONSULTANTS

Project 2017-02-0115
103 Washington St.
Somerville, MA

Boring ID:
IES-6

Date Started: 4/6/17	Geologist: John Beck	Drilling Contractor: TDS
Date Finished: 4/6/17	Project Manager: John Beck	

Depth (feet)	Casing bl/ft	Sample No.	Sample OVM	Sample Depth	Sample Blows/6”	Strata	Visual Identification of Soil and/or Rock Sample
							Asphalt
1		S-1	0	0’0”-5’0”			(rec. 1.5’) 4” concrete over 1’ of brn, damp, clay-rich sandy fill w/ brick fragments.
5		S-2	3	5’0”-10’0”		15’	(rec. 1’) Dry to damp, dense, yellowish gy clay w/ gasoline (?) odor.
10		S-3	5	10’0”-15’0”			(rec. 2.5’) Damp to wet, dense, yellow clay w/ some, thin layers of sandy/gravelly clay.
15							_____. End of probe at 15’ 0”. Groundwater depth unknown. Monitoring well set at 13’
20							
25							
30							

Rig: Track-mounted, percussion hammer driving system (geoprobe)
Sampling Equipment: $1^{3}/_{8}$” diameter stainless-steel sampling tube.
OVM = Organic Vapor Meter (parts per million - calibrated to benzene standard).

Cohesionless: 0-4 = Very Loose; 4-10 = Loose; 10-30 = Medium Dense; 30-50 = Dense; 50+ = Very Dense Cohesive: 0-2 = Very Soft; 2-4 = Soft; 4-8 = Medium Stiff; 8-15 = Stiff; 15-30 = Very Stiff; 30+ = Hard	Trace: 0% – 10% Little: 10% – 20% Some: 20% – 35% And: 35% – 50%

BORING/MONITORING WELL LOG

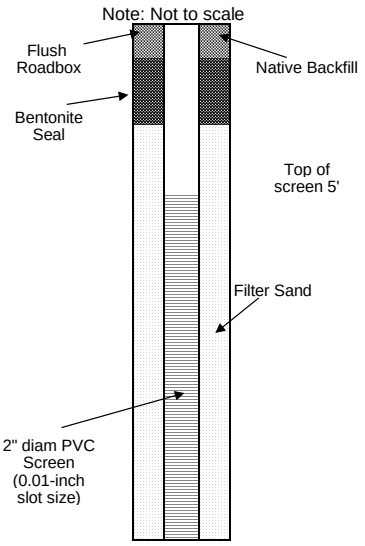
Atlas Technical Consultants LLC
10 State Street, Suite 100
Woburn, MA 01801
Phone: (781) 932-9400 Fax: (781) 932-6211

SITE:	Tuft Street Improvement Project	**WELL/BORING NO.:**	ATC-1
DATE:	3/15/2024	**WEATHER:**	cloudy, 40's
CLIENT:	City of Somerville	**Atlas INSPECTOR:**	Eric Marchese
DRILLING CO.:	Geosearch	**SURFACE ELEVATION:**	not surveyed
DRILLING METHOD:	Direct Push Geoprobe	**DEPTH TO WATER: (feet)**	~6
SAMPLER METHOD:	Hand auger with vactor, and macrocore	**Atlas Project Number:**	6000007464
AUGER DIAMETER:		**Phase Number:**	02

Sample Interval (feet)	Recovery/ Penetration (in/in)	Blow Counts (per 6")	PID readings (ppmv)	Depth (feet)	Soil Log	Materials Description (color, density, size, major and minor constituents, moisture) no well installed
			0.0	1		9 inches asphalt Pre-clear to 5 ft Brown and black, fine to coarse SAND, trace silt, trace fine gravel, trace cobble, no odors or staining
			0.0	2		
			0.0	3		
0-5			0.0	4		
			0.0	5		
				6		Brown and black, fine to coarse SAND, trace silt, trace fine gravel, trace cobble, no odors or staining
			0.0 (5-8)	7		
5-10	39/60			8		
			0.0 (8-10)	9		Grey and brown, CLAY and SILT, no odor or staining
				10		End of boring at 10 feet
				11		
				12		
				13		
				14		
				15		
				16		
				17		
				18		
				19		
				20		
				21		
				22		
				23		
				24		
				25		
				26		
				27		
				28		
				29		
				30		
				31		
				32		
				33		
				34		
				35		

Well Construction (none)

	(Depth Interval)
CEMENT SEAL:	N/A
NATURAL FILL	N/A
BENTONITE SEAL	N/A
FILTER SAND	N/A
SOLID PVC RISER	N/A
PVC SCREEN	N/A



COMMENTS:
Sampled for VOC/8260 from 0-5 and 5-10 interval

GRANULAR SOILS COHESIVELESS DENSITY

0-4	Very Loose
5-9	Loose
10-29	Medium Dense
30-49	Dense
50+	Very Dense

PROPORTIONS USED

Trace	0-10%
Little	10-20%
Some	20-35%
And	35-50%

LEGEND:
ND = Not Detected
NA = Not Applicable
GS = Ground Surface

BORING/MONITORING WELL LOG

Atlas Technical Consultants LLC
10 State Street, Suite 100
Woburn, MA 01801
Phone: (781) 932-9400 Fax: (781) 932-6211

SITE:	Tuft Street Improvement Project
DATE:	3/15/2024
CLIENT:	City of Somerville
DRILLING CO.:	Geosearch
DRILLING METHOD:	Direct Push Geoprobe
SAMPLER METHOD:	Hand auger with vactor, and macrocore
AUGER DIAMETER:	

WELL/BORING NO.:	ATC-2
WEATHER:	cloudy, 40's
Atlas INSPECTOR:	Eric Marchese
SURFACE ELEVATION:	not surveyed
DEPTH TO WATER:	~5.5
Atlas Project Number:	6000007464
Phase Number:	02

Sample Interval (feet)	Recovery/ Penetration (in/in)	Blow Counts (per 6")	PID readings (ppmv)	Depth (feet)	Soil Log
0-5			0.0	1	
			0.0	2	
			0.0	3	
			0.0	4	
			0.0	5	
				6	
				7	
5-10	42/60		0.0 (5-10)	8	
				9	
				10	
				11	
				12	
				13	
				14	
				15	
				16	
				17	
				18	
				19	
				20	
				21	
				22	
				23	
				24	
				25	
				26	
				27	
				28	
				29	
				30	
				31	
				32	
				33	
				34	
				35	

Materials Description
(color, density, size, major and minor constituents, moisture)
no well installed

9 inches asphalt
Pre-clear to 5 ft
Light to dark brown, fine to coarse SAND, trace silt, trace fine gravel, trace cobble, no odors or staining

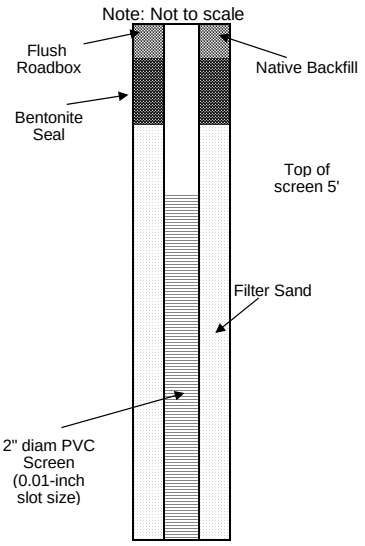
Grey green, very fine SAND and CLAY

End of boring at 10 feet

Well Construction (none)

	(Depth Interval)
CEMENT SEAL:	N/A
NATURAL FILL	N/A
BENTONITE SEAL	N/A
FILTER SAND	N/A
SOLID PVC RISER	N/A
PVC SCREEN	N/A

Note: Not to scale



COMMENTS:
Sampled for VOC/8260 from 0-5 and 5-10 interval

GRANULAR SOILS COHESIVELESS DENSITY

0-4	Very Loose
5-9	Loose
10-29	Medium Dense
30-49	Dense
50+	Very Dense

PROPORTIONS USED

Trace	0-10%
Little	10-20%
Some	20-35%
And	35-50%

LEGEND:
ND = Not Detected
NA = Not Applicable
GS = Ground Surface

BORING/MONITORING WELL LOG

Atlas Technical Consultants LLC
10 State Street, Suite 100
Woburn, MA 01801
Phone: (781) 932-9400 Fax: (781) 932-6211

SITE:	Tuft Street Improvement Project
DATE:	3/15/2024
CLIENT:	City of Somerville
DRILLING CO.:	Geosearch
DRILLING METHOD:	Direct Push Geoprobe
SAMPLER METHOD:	Hand auger with vactor, and macrocore
AUGER DIAMETER:	

WELL/BORING NO.:	ATC-3
WEATHER:	cloudy, 40's
Atlas INSPECTOR:	Eric Marchese
SURFACE ELEVATION:	not surveyed
DEPTH TO WATER:	~7
Atlas Project Number:	6000007464
Phase Number:	02

Sample Interval (feet)	Recovery/ Penetration (in/in)	Blow Counts (per 6")	PID readings (ppmv)	Depth (feet)	Soil Log
0-5			0.0 0.0 0.0 0.0 0.0 0.0 (5-6)	1 2 3 4 5 6	
5-10	36/60		0.0 (6-10)	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	

Materials Description
(color, density, size, major and minor constituents, moisture)
no well installed

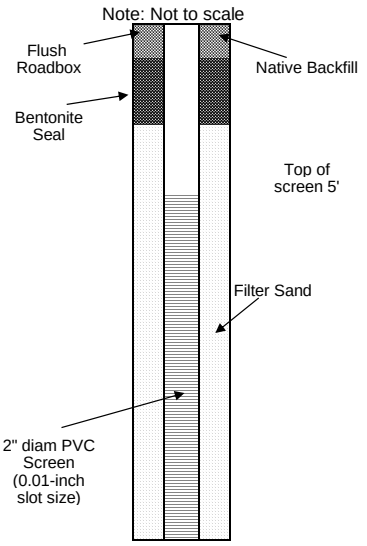
6 inches asphalt
Pre-clear to 5 ft
Dark brown and black, fine to coarse SAND, trace silt, trace fine gravel, trace cobble, trace brick debris, no odors or staining

Dark to light brown, fine SAND and some CLAY, trace fine gravel

End of boring at 10 feet

Well Construction (none)

	(Depth Interval)
CEMENT SEAL:	N/A
NATURAL FILL	N/A
BENTONITE SEAL	N/A
FILTER SAND	N/A
SOLID PVC RISER	N/A
PVC SCREEN	N/A



COMMENTS:
Sampled for VOC/8260 from 0-5 and 5-10 interval

GRANULAR SOILS COHESIVELESS DENSITY

0-4	Very Loose
5-9	Loose
10-29	Medium Dense
30-49	Dense
50+	Very Dense

PROPORTIONS USED

Trace	0-10%
Little	10-20%
Some	20-35%
And	35-50%

LEGEND:
ND = Not Detected
NA = Not Applicable
GS = Ground Surface

BORING/MONITORING WELL LOG

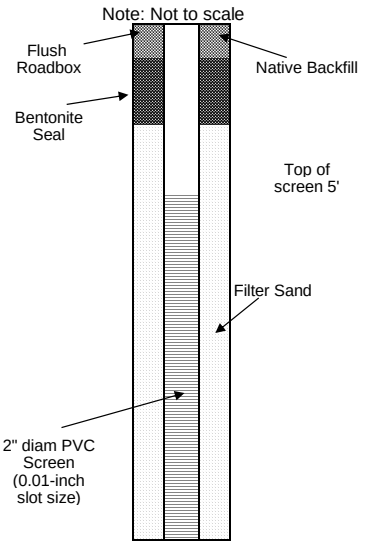
Atlas Technical Consultants LLC
10 State Street, Suite 100
Woburn, MA 01801
Phone: (781) 932-9400 Fax: (781) 932-6211

SITE:	Tuft Street Improvement Project	**WELL/BORING NO.:**	ATC-4
DATE:	3/14/2024	**WEATHER:**	cloudy, 40's
CLIENT:	City of Somerville	**Atlas INSPECTOR:**	Eric Marchese
DRILLING CO.:	Geosearch	**SURFACE ELEVATION:**	Unknown
DRILLING METHOD:	Direct Push Geoprobe	**DEPTH TO WATER:**	~8
SAMPLER METHOD:	Hand auger with vactor, and macrocore	**Atlas Project Number:**	6000007464
AUGER DIAMETER:		**Phase Number:**	02

Sample Interval (feet)	Recovery/ Penetration (in/in)	Blow Counts (per 6")	PID readings (ppmv)	Depth (feet)	Soil Log	Materials Description (color, density, size, major and minor constituents, moisture)
			0.0	1		4 inches asphalt Pre-clear to 5 ft Light brown to grey, coarse to fine SAND, trace silt, trace fine gravel, trace cobble, dry, no odors or staining
			0.0	2		
			0.0	3		
0-5			0.0	4		
			0.0	5		
				6		
			0.0	7		Light to dark brown, coarse to medium SAND, trace silt, trace fine gravel, no odors or staining
5-10	42/60		(5-10)	8		
				9		
				10		End of boring at 10 feet
				11		
				12		
				13		
				14		
				15		
				16		
				17		
				18		
				19		
				20		
				21		
				22		
				23		
				24		
				25		
				26		
				27		
				28		
				29		
				30		
				31		
				32		
				33		
				34		
				35		

Well Construction (none)

	(Depth Interval)
CEMENT SEAL:	N/A
NATURAL FILL	N/A
BENTONITE SEAL	N/A
FILTER SAND	N/A
SOLID PVC RISER	N/A
PVC SCREEN	N/A



COMMENTS:
Sampled for VOC/8260 from 0-5 and 5-10 interval

GRANULAR SOILS COHESIVELESS DENSITY

0-4	Very Loose
5-9	Loose
10-29	Medium Dense
30-49	Dense
50+	Very Dense

PROPORTIONS USED

Trace	0-10%
Little	10-20%
Some	20-35%
And	35-50%

LEGEND:
ND = Not Detected
NA = Not Applicable
GS = Ground Surface

BORING/MONITORING WELL LOG

Atlas Technical Consultants LLC
10 State Street, Suite 100
Woburn, MA 01801
Phone: (781) 932-9400 Fax: (781) 932-6211

SITE:	Tuft Street Improvement Project	**WELL/BORING NO.:**	ATC-5
DATE:	3/14/2024	**WEATHER:**	cloudy, 40's
CLIENT:	City of Somerville	**Atlas INSPECTOR:**	Eric Marchese
DRILLING CO.:	Geosearch	**SURFACE ELEVATION:**	Unknown
DRILLING METHOD:	Direct Push Geoprobe	**DEPTH TO WATER:**	~8
SAMPLER METHOD:	Hand auger with vactor, and macrocore	**Atlas Project Number:**	6000007464
AUGER DIAMETER:		**Phase Number:**	02

Sample Interval (feet)	Recovery/ Penetration (in/in)	Blow Counts (per 6")	PID readings (ppmv)	Depth (feet)	Soil Log
0-5			0.0	1	
			0.0	2	
			0.0	3	
			0.0	4	
			0.0	5	
				6	
				7	
5-10	52/60		0.0 (5-10)	8	
				9	
				10	
				11	
				12	
				13	
				14	
				15	
				16	
				17	
				18	
				19	
				20	
				21	
				22	
				23	
				24	
				25	
				26	
				27	
				28	
				29	
				30	
				31	
				32	
				33	
				34	
				35	

Materials Description
(color, density, size, major and minor constituents, moisture)
no well constructed

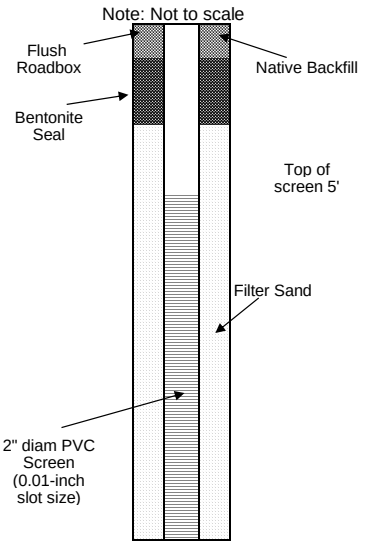
4 inches asphalt
Pre-clear to 5 ft
Brown and black, fine to coarse SAND, trace silt, trace fine gravel, trace cobble, moist toward bottom, no odors or staining

Brown and black, fine to coarse SAND, trace silt, trace fine gravel, no odors or staining

End of boring at 10 feet

Well Construction (none)

	(Depth Interval)
CEMENT SEAL:	N/A
NATURAL FILL	N/A
BENTONITE SEAL	N/A
FILTER SAND	N/A
SOLID PVC RISER	N/A
PVC SCREEN	N/A



COMMENTS:
Sampled for VOC/8260 from 0-5 and 5-10 interval

GRANULAR SOILS COHESIVELESS DENSITY
0-4 Very Loose
5-9 Loose
10-29 Medium Dense
30-49 Dense
50+ Very Dense

PROPORTIONS USED
Trace 0-10%
Little 10-20%
Some 20-35%
And 35-50%

LEGEND:
ND = Not Detected
NA = Not Applicable
GS = Ground Surface

BORING/MONITORING WELL LOG

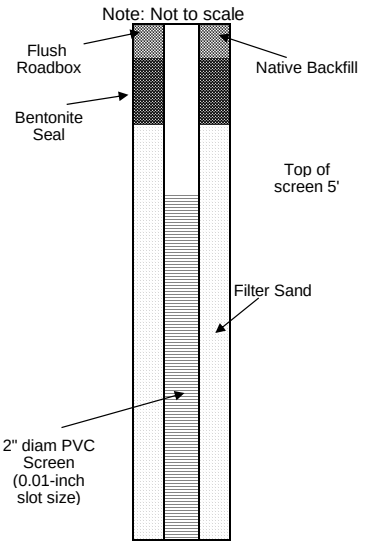
Atlas Technical Consultants LLC
10 State Street, Suite 100
Woburn, MA 01801
Phone: (781) 932-9400 Fax: (781) 932-6211

SITE:	Tuft Street Improvement Project
DATE:	3/14/2024
CLIENT:	City of Somerville
DRILLING CO.:	Geosearch
DRILLING METHOD:	Direct Push Geoprobe
SAMPLER METHOD:	Hand auger with vactor, and macrocore
AUGER DIAMETER:	

WELL/BORING NO.:	ATC-6
WEATHER:	cloudy, 40's
Atlas INSPECTOR:	Eric Marchese
SURFACE ELEVATION:	Unknown
DEPTH TO WATER:	~6
Atlas Project Number:	6000007464
Phase Number:	02

Sample Interval (feet)	Recovery/ Penetration (in/in)	Blow Counts (per 6")	PID readings (ppmv)	Depth (feet)	Soil Log	Materials Description (color, density, size, major and minor constituents, moisture) no well contructed	Well Construction
			0.0	1		Drilled in sidewalk, 6 inches concrete Pre-clear to 5 ft	
			0.0	2		Light brown and black, fine to medium SAND, trace silt, trace fine gravel, trace cobble, no odors or staining	
0-5			0.0	3			
			0.0	4			
			0.0	5			
				6		Light brown and black, fine to medium SAND, trace silt, trace fine gravel, no odors or staining	
				7			
5-10	36/60			8			
			0.0 (5-10)	9			
				10		End of boring at 10 feet	
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			
				21			
				22			
				23			
				24			
				25			
				26			
				27			
				28			
				29			
				30			
				31			
				32			
				33			
				34			
				35			

Well Construction	(Depth Interval)
CEMENT SEAL:	N/A
NATURAL FILL	N/A
BENTONITE SEAL	N/A
FILTER SAND	N/A
SOLID PVC RISER	N/A
PVC SCREEN	N/A



COMMENTS:
Sampled for VOC/8260 from 0-5 and 5-10 interval

GRANULAR SOILS COHESIVELESS DENSITY

0-4	Very Loose
5-9	Loose
10-29	Medium Dense
30-49	Dense
50+	Very Dense

PROPORTIONS USED

Trace	0-10%
Little	10-20%
Some	20-35%
And	35-50%

LEGEND:
ND = Not Detected
NA = Not Applicable
GS = Ground Surface

BORING/MONITORING WELL LOG

Atlas Technical Consultants LLC
10 State Street, Suite 100
Woburn, MA 01801
Phone: (781) 932-9400 Fax: (781) 932-6211

SITE:	Tuft Street Improvement Project
DATE:	3/14/2024
CLIENT:	City of Somerville
DRILLING CO.:	Geosearch
DRILLING METHOD:	Direct Push Geoprobe
SAMPLER METHOD:	Hand auger with vactor, and macrocore
AUGER DIAMETER:	

WELL/BORING NO.:	ATC-7
WEATHER:	cloudy, 40's
Atlas INSPECTOR:	Eric Marchese
SURFACE ELEVATION:	not surveyed
DEPTH TO WATER:	~6
Atlas Project Number:	6000007464
Phase Number:	02

Sample Interval (feet)	Recovery/ Penetration (in/in)	Blow Counts (per 6")	PID readings (ppmv)	Depth (feet)	Soil Log
0-5			0.0 0.0 0.0 0.0 0.0	1 2 3 4 5 6 ▼	
5-10	60/60		0.0 (6-10) ft.	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	

Materials Description
(color, density, size, major and minor constituents, moisture)
no well constructed

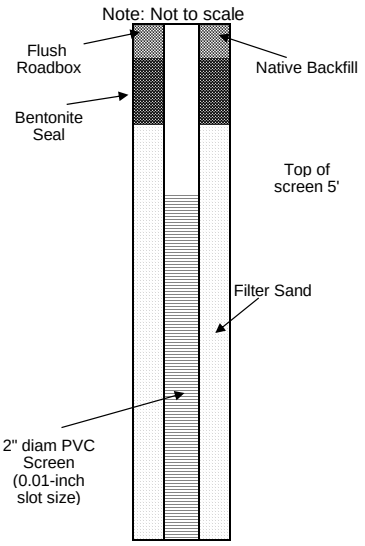
Drilled in sidewalk, 6 inches concrete
Pre-clear to 5 ft
Light and dark brown, medium to fine SAND, trace silt, trace fine gravel, whole bricks and brick debris, dry, no odors or staining

Grey and brown, CLAY with trace fine sand and silt, wet

End of boring at 10 feet

Well Construction (none)

	(Depth Interval)
CEMENT SEAL:	N/A
NATURAL FILL	N/A
BENTONITE SEAL	N/A
FILTER SAND	N/A
SOLID PVC RISER	N/A
PVC SCREEN	N/A



COMMENTS:
Sampled for VOC/8260 from 0-5 and 5-10 interval

GRANULAR SOILS COHESIVELESS DENSITY

0-4	Very Loose
5-9	Loose
10-29	Medium Dense
30-49	Dense
50+	Very Dense

PROPORTIONS USED

Trace	0-10%
Little	10-20%
Some	20-35%
And	35-50%

LEGEND:
ND = Not Detected
NA = Not Applicable
GS = Ground Surface

BORING/MONITORING WELL LOG

Atlas Technical Consultants LLC
10 State Street, Suite 100
Woburn, MA 01801
Phone: (781) 932-9400 Fax: (781) 932-6211

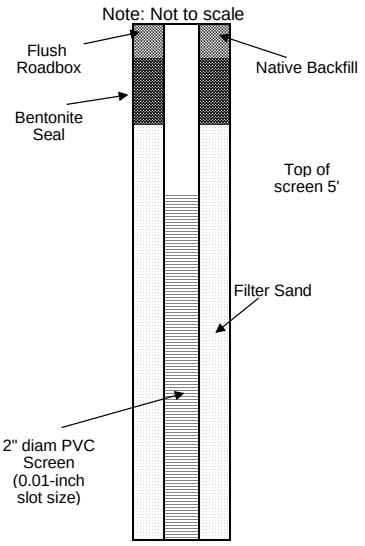
SITE:	Tuft Street Improvement Project
DATE:	3/14/2024
CLIENT:	City of Somerville
DRILLING CO.:	Geosearch
DRILLING METHOD:	Direct Push Geoprobe
SAMPLER METHOD:	Hand auger with vactor, and macrocore
AUGER DIAMETER:	

WELL/BORING NO.:	ATC-8
WEATHER:	cloudy, 40's
Atlas INSPECTOR:	Eric Marchese
SURFACE ELEVATION:	not surveyed
DEPTH TO WATER:	~5.5
Atlas Project Number:	6000007464
Phase Number:	02

Sample Interval (feet)	Recovery/ Penetration (in/in)	Blow Counts (per 6")	PID readings (ppm)	Depth (feet)	Soil Log	Materials Description (color, density, size, major and minor constituents, moisture) no well constructed
0-5			0.0 0.0 0.0 0.0 0.0	1 2 3 4 5 6		4 inches asphalt Pre-clear to 5 ft Light and dark brown, medium to fine SAND, some silt, trace fine gravel, moist around 5.5 feet, no odors or staining
5-10	44/60		0.0 (6-10)	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35		Grey and brown, CLAY and fine SAND, wet End of boring at 10 feet

Well Construction (none)

	(Depth Interval)
CEMENT SEAL:	N/A
NATURAL FILL	N/A
BENTONITE SEAL	N/A
FILTER SAND	N/A
SOLID PVC RISER	N/A
PVC SCREEN	N/A



COMMENTS:
Sampled for VOC/8260 from 0-5 and 5-10 interval

GRANULAR SOILS COHESIVELESS DENSITY

0-4	Very Loose
5-9	Loose
10-29	Medium Dense
30-49	Dense
50+	Very Dense

PROPORTIONS USED

Trace	0-10%
Little	10-20%
Some	20-35%
And	35-50%

LEGEND:
ND = Not Detected
NA = Not Applicable
GS = Ground Surface

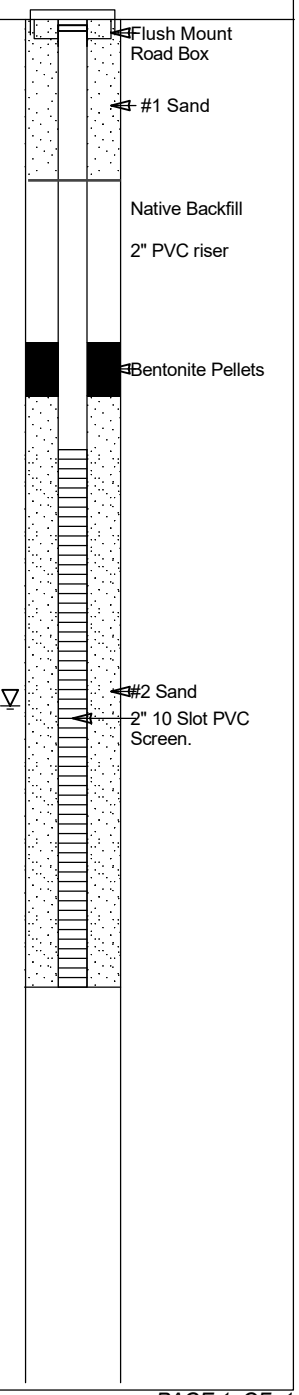
BORING/WELL CONSTRUCTION LOG

650 Suffolk St,
Lowell, MA 01854
Telephone: 978-970-5600

CLIENT/PROJECT NUMBER 310142.0002 Phase 00 Task 12
BORING/WELL NUMBER WSPH-SB-06 / WSPH-MW-12
TRC GEOLOGIST J Fiero
SCREEN TYPE/SLOT 10 slot PVC
DRILLING CONTRACTOR/FOREMAN New England Boring
FILTER PACK TYPE #2 Sand
DATE DRILLED 10/14/2022
SEAL TYPE Bentonite Pellets
LOCATION 132 Washington Street, Somerville, MA
DEPTH TO WATER (Approximate Feet) 12.17
SAMPLING METHOD N/A
GROUND ELEVATION (Feet) N/A
DRILLING METHOD Air Vacuum & Hollow Stem Auger
REFERENCE DATUM N/A
TOTAL DEPTH (Feet) 20
NOTES

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	LITHOLOGIC DESCRIPTION	PID (ppm)	SAMPLE ID/ TIME
1				0-3" Dark brown TRAPROCK angular medium to coarse GRAVEL, some to little medium to coarse sand.		
2				3-24" Tan TRAPROCK angular medium to coarse GRAVEL, some to little medium to coarse sand.	0.2	
3				24-48" Black urban fill.		WSPH-SB 06 2-4 10/14/22 07:50
4					90.0	
5				48-72" Dark brown, fine - coarse SAND, some angular - subangular, fine - coarse gravel, little silt, urban fill.	69.0	
6	1	24"/14"	SS-1	72-76" Grey soft CLAY SILT.		
7	1 1 1 1			76-96" Black-Grey PEAT.	1.1	WSPH-SB 06 6-8 10/14/22 08:20
8	4	24"/18"	SS-2	96-102" Fine to medium SAND, some corous sand.		
9	9 11 8			102-109" Grey CLAY, some angular to subangular medium to coarse gravel.	0.5	
10				109-120" Brown tan fine to medium SAND.		
	9	24"/19"	SS-3	120-128" Brown tan fine to medium SAND.		
11	12 14 15			128-130" Grey CLAY.	0.8	
12	8	24"/20"	SS-4	130-144" Brown tan fine to medium SAND.		WSPH-SB 06 12 10/14/22 09:10'
13	15 18 12			144-156" Brown tan fine to medium SAND, wet to saturated.		
14				156-159" Grey CLAY.	3.8	WSPH-SB 06 12-14 10/14/22 09:20
15	6	24"/21"	SS-5	159-180" Brown tan fine to medium SAND, wet to saturated.		
16	3 5 6			180-183" Brown tan fine to medium SAND, wet to saturated.		
17				183-204" Grey CLAY	0.8	WSPH-SB 06 15-17 10/14/22 09:30
				END of boring at 17'.		

WELL DIAGRAM

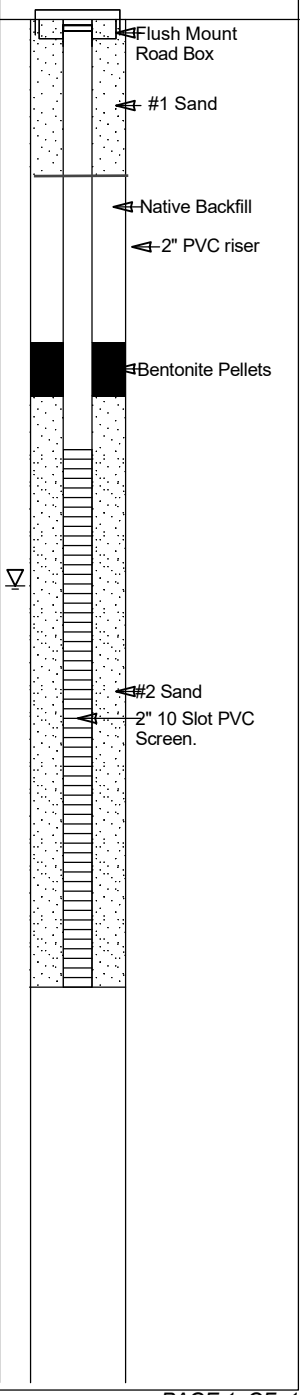


BORING/WELL CONSTRUCTION LOG

650 Suffolk St,
Lowell, MA 01854
Telephone: 978-970-5600

CLIENT/PROJECT NUMBER 310142.0002 Ph 00 T 12
BORING/WELL NUMBER WSPH-SB-01 / WSPH-MW-13
TRC GEOLOGIST J Fiero
SCREEN TYPE/SLOT 10 slot PVC
DRILLING CONTRACTOR/FOREMAN New England Boring
FILTER PACK TYPE #2 Sand
DATE DRILLED 10/14/2022 & 10/17/22
SEAL TYPE Bentonite Pellets
LOCATION 132 Washington Street, Somerville, MA
DEPTH TO WATER (Approximate Feet) 10.89 (2/2/23)
SAMPLING METHOD Grab / Split Spoon
GROUND ELEVATION (Feet) N/A
DRILLING METHOD Air Vacuum and Hollow Stem Auger
REFERENCE DATUM N/A
TOTAL DEPTH (Feet) 17
NOTES

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	PID (ppm)	SAMPLE ID/ TIME
1					0-24" Dark brown to black fine to coarse SAND.	0.1	
2							
3					24-36" Dark brown angular to subangular fine to coarse GRAVEL, some fine to coarse SAND.	0.0	
4					36-48" Brown fine to coase SAND, little subrounded to subangular fine to medium gravel.	0.2	
5					48-60" Fill, boulder.		
6	3	24"/16"			60-72" Grey black fine to coarse SAND, some to little trace subangular fine gravel.		WSPH-SB 01 5-6 10/14/22 14:00
7	2 2 2				72-76" Brown to dark brown fine to medium SAND, little silt. 76"-96" Tan to dark brown fine SAND, some silt, little medium to coarse sand, little to trace angular 1/4-1" gravel.		
8	5	24"/18"			96-128" Tan to dark brown fine and fine to coarse SAND, some silt, grey cobble.		
9	4 3 4						
10	3	24"/15"					
11	3 3 3				130-159" Grey CLAY.		WSPH-SB 01 10-12 10/17/22 08:40
12	3	24"/20"					
13	3 4 3						
14							
15	10	24"/12"			180-183" Tan fine to SAND, Some silt, little sub-round medium gravel.		
16	15 12						WSPH-SB 01 15-17 10/17/22 09:10
17	13						



Appendix G Monitored Natural Attenuation Evaluation

G.1 Available Datasets

This subsection introduces the datasets that were included in the MNA evaluations and how these datasets were prepared for evaluation.

G.1.1 Volatile Organic Compounds

Volatile organic compound (VOC) groundwater sampling and analysis data is available for 50 wells, with certain wells being sampled beginning in 2004. Groundwater monitoring well locations are shown in the figures of the report that this appendix supports. The VOC groundwater sampling results collected to date are provided in Table G1. These VOC data were used to evaluate natural attenuation via using GWSDAT plume visualizations, Mann Kendall tests, linear regression analyses, and degradation trend analyses.

G.1.2 Natural Attenuation Parameters

Limited natural attenuation (NA) indicator parameter data, primarily consisting of iron, manganese, dissolved gases, nitrate and nitrite, sulfate, and total organic carbon, are available for groundwater samples collected at select groundwater monitoring well locations over the course of response actions performed to date. These geochemical NA data are included in Appendix F6, which includes field parameters such as dissolved oxygen, pH, and oxidation reduction potential, which were also reviewed during this evaluation. The available data were reviewed and interpreted together with chlorinated VOC trends to provide an understanding of how chlorinated VOCs may be degrading and dispersing naturally in the subsurface.

G.1.3 Preparation and Evaluation of Datasets

As part of compiling and organizing the dataset, certain adjustments were made to allow for accurate results during statistical calculations, including:

- The dataset was pared down to the key COPCs, including chlorinated ethenes (PCE and its degradation products[1]) and chlorinated ethanes (1,1,1 trichloroethane [1,1,1 TCA] and degradation products[2])
- Total chlorinated ethenes (i.e., total concentration of detected chlorinated ethenes in a sample) and total chlorinated ethanes (i.e., total concentration of detected chlorinated ethenes in a sample) were calculated.
- Qualifiers (including primarily “J” qualifiers indicating an estimated result) were stripped from the results.
- Blind duplicate results were averaged with their parent sample result.

[1] The degradation products of PCE are trichloroethene (TCE), 1,2-cis-dichloroethene (1,2-cis-DCE), 1,2-trans-dichloroethene (1,2-trans-DCE), and vinyl chloride (VC), and also 1,1-dichloroethene (1,1-DCE).
[2] The degradation products of 1,1,1 TCA are 1,1 dichloroethane (1,1 DCA), 1,2 dichloroethane (1,2 DCA), and chloroethane (CA).

- For the linear regression analysis, the lab reported detection limit was used for data reported as undetected (i.e., "non detect") because logarithmic values are used in this evaluation. For Mann Kendall tests, non-detect results were interpreted as "zero" concentration.
- For the linear regression analysis, data was converted to log normal.
- Dataset characteristics were compiled for each well, including but not limited to the number of samples collected, minimum and maximum concentrations, the date range of available sample data, whether data exceeds applicable MCP screening criteria, and whether degradation products are present.

The datasets for each sampling location were also screened for inclusion in the NA evaluations by comparing to applicability criteria, with the goal of providing statistically robust evaluation results while also including as many monitoring locations as possible in the evaluations.

Dataset characteristics and screening results are summarized in Table G2.

G.2. Mann Kendall Test

The results and conclusions associated with the Mann Kendall test are summarized in the Section 10 of the Phase II Report. A discussion of the criteria used for selecting datasets for inclusion in the test and the methods used to conduct the test are discussed herein.

G.2.1 Dataset Selection Criteria

Screening criteria for the Mann Kendall test included:

- Dataset has a minimum of ten records.
- Dataset does not have gaps between sampling events longer than one-third of the total time span of sampling at that specific sampling location.
- Dataset has at least one concentration above lab detection limits.[3]
- Although not strictly a "screening criterion," for the purposes of streamlining presentation of results, if the Mann-Kendall trends for both PCE and TCE at a given location were decreasing (or increasing), only the PCE trend analysis is included in the evaluation documentation (in other words, if PCE is decreasing but TCE is increasing within a given well, both of those Mann Kendall results are documented, otherwise it can be assumed both decrease).

Specific to 1,1,1-TCA, because most wells exhibit a long record of low concentrations, just the one well meeting the above criteria *and* exceeding applicable Method 1 standards at least once is included herein (GEO-1).

[3]Evaluation of datasets for 1,1,1-TCA were included only if they contained a detected concentration above MCP Method 1 GW-2 standards (4,000 µg/L).

The methods, results, and conclusions associated with the Mann-Kendall test are summarized in the following subsections.

G.2.2 Analysis Method

Mann-Kendall tests were conducted using R, a programming language for statistical analysis and data visualization (R: The R Project for Statistical Computing, n.d.), in RStudio Desktop, an integrated development environment (IDE) for R. Trends were evaluated for datasets that met screening criteria, as identified above.

The Mann-Kendall function in R calculates the Mann-Kendall statistic, or τ, through pairing all data points and summing the sign of the difference between later-measured data and earlier-measured data, shown below:

$$S = \sum_{i=1}^{n-1} \sum_{j=i+1}^{n} sign(y_j - y_i) \qquad \text{(Meals et al., 2011)}$$

This summation is denoted by S and used in the final calculation of τ:

$$\tau = \frac{S}{n(n-1)/2} \qquad \text{(Meals et al., 2011)}$$

The τ value can range from -1 to +1; a negative τ value signifies a decreasing trend in the dataset and a positive τ signifies an increasing trend.

In addition to calculating the τ value, the R Mann-Kendall function also generates a p-value based on the probability that a dataset would have no trend, or τ = 0. In other words, the p-value measures how likely it is that the observed results could have occurred by chance alone. The lower the p-value, the less likely it is that the null hypothesis is true (i.e., the more likely it is that a trend does exist). For this MNA evaluation, a 95% significance level was selected to indicate a statistically significant trend. As such, the p-value was held to a significance threshold of less than or equal to 0.05, meaning that any trend assessed by a Mann-Kendall test with a p-value less than 0.05 is considered statistically significant.

G.3. Linear Regression Analysis

The results and conclusions associated with the linear regression analysis are summarized in Section 10 of the Phase II Report. A discussion of the criteria used for selecting datasets for inclusion in the analysis and the methods used to conduct the analysis are discussed herein.

G.3.1 Dataset Selection Criteria

The criterion for inclusion of datasets was that the dataset had minimum four records, although ten records were preferred (i.e., expected to provide a more statistically robust result).

Linear regression analysis was conducted for PCE, total chlorinated ethenes (tCE) and total chlorinated ethanes (tCA). Specific to total chlorinated ethanes, because most wells exhibit a long record of low 1,1,1 TCA concentrations, just the two wells that meet linear regression screening criteria that also exceed applicable Method 1 standards at least once are included (GEO 1 and MW 1).

MCP Method 1 Standards (310 CMR 40.0974) are used as screening values (SV) for PCE in this evaluation. The Method 1 GW 2 standard (20 µg/L) was used to screen shallow wells and Method 1 GW 3 standard (30,000 µg/L) was used to screen deep wells. For total chlorinated ethenes (tCE) and ethanes (tCA), SVs of 100 and 2000 µg/L, respectively, were used for shallow wells, and 1,000 µg/L was used for total chlorinated ethenes (tCE) in deep wells[4] , because no Method 1 standard exists for these chlorinated VOC sums. Wells with unknown screened intervals (i.e., MW 1 and MW 3) were conservatively assumed to be shallow.

G.3.2 Analysis Method

The linear regression evaluation was performed in Microsoft Excel, using a custom workbook with the Data Analysis add-in Regression function. Calculations were conducted on the full set of historical data at each well with more than three records using the natural logarithm of concentrations to evaluate trends and to estimate natural attenuation rates. This data was plotted and fitted with a linear trendline, and regression statistics were calculated. The trend direction was defined as decreasing if concentrations decreased with time and increasing in concentrations increased with time. The natural attenuation half-life was estimated from the slope of the linear regression line (decay rate) using the equation below:

$$t_{1/2} = \frac{0.693}{decay\ rate}$$

This calculation provides an estimate of the half-life based on decreases in concentrations caused by both biotic (e.g., biodegradation) and abiotic (e.g., dichloroelimination, hydrolysis, volatilization, and dilution) processes. It represents the overall rate at which VOC concentrations are decreasing, regardless of the processes by which the decrease is occurring. The slope and intercept of the trendline were used to predict a date to reach screening levels.

For this linear regression evaluation, an 80% significance level was selected to indicate a statistically significant trend. As such, the p-value was held to a significance threshold of less than or equal to 0.2, meaning that any trend with a p-value less than 0.2 is considered statistically significant. The correlation coefficient, R^2, was also used as a measure of how well the linear regression fits the data; values close to one are considered a good fit, while values close to zero are considered a poor fit. The statistically significant trends were further categorized by significance level (R^2) as strong ($R^2 > 0.7$), moderate ($0.7 > R^2 > 0.4$) and weak ($0.4 > R^2 > 0.1$).

[4] Total chlorinated ethanes (tCA) were not evaluated in any deep well using linear regression; as such, no SL was set for tCA in deep wells.

G.4. Summary

The results of the statistical evaluations are discussed in detail in Section 10 of the Phase II Comprehensive Site Assessment Addendum and are summarized in Table G3 of this appendix. The remainder of this appendix is organized as follows:

Tables

- G1. Chemical Testing Results - GEI Groundwater Sampling
- G2. Groundwater Analytical Dataset Properties and Screening Summary
- G3. Summary of Groundwater Natural Attenuation Evaluation Outcomes

Attachments

1. Degradation Evaluation
2. GWSDAT
3. Molar Concentrations
4. Mann Kendall Tests
5. Linear Regression Analysis
6. Geochemical Assessment
7. Microbial Population Testing

Tables

Table G1. Chemical Testing Results - GEI Groundwater Sampling

Table G2. Groundwater Analytical Dataset Properties and Screening Summary

Table G3. Summary of Groundwater Natural Attenuation Evaluation Outcomes

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	GEO-1	GEO-1	GEO-1	GEO-1	GEO1	GEO1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1
					Sample Name:	GEO-1	GEO-1	GEO-1	GEO-1	MW800 (FD)	GEO1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1
					Well Screen Interval (ft bgs):	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
					Sample Date:	8/16/04	5/23/06	10/5/06	1/17/07	1/17/07	4/12/07	4/15/08	7/15/08	10/21/08	1/13/09	4/13/09	7/15/09	10/14/09	4/13/10	4/22/11	4/17/12	4/24/13	4/30/14	4/2/15	4/28/16	4/17/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	4/18/23	4/2/24	4/23/25	
					Collected By:	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	
Volatile Organic Compounds (VOCs)	8260	µg/l																															
Acetone			50000	50000		< 400	< 5.0	< 5.0	< 5.0	< 5.0	9.7	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<50	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Benzene			1000	10000		< 20	< 0.50	< 0.50	< 0.50	< 0.50	0.27 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<2.5	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.5	<0.50
Bromodichloromethane			6	50000		< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			50000	50000		< 200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<50	<10	<10	<10	<10	<10	<10	<5.0	<5.0
Carbon disulfide			NS	NS		< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			2	5000		< 20	3.6	1.4	2.3	2.3	5.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			200	1000		< 20	0.76 J	0.86 J	0.76 J	0.84 J	0.77 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			NS	NS		< 40	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<1.0	<1.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0
Chloroform			50	20000		< 20	< 1.0	< 1.0	0.60 J	0.61 J	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			NS	NS		< 40	< 2.0	3.7	< 2.0	1.8 J	6.2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<1.0	<1.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			60	8000		< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			2000	20000		< 20	4.3	2.9	5.4	5.6	10.6	< 1.0	0.38 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			5	20000		< 20	< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 1.0	13.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			80	30000		39.8	989	1330 E	247	241	8980	3.0	26.2	1.4	1.3	1.7	< 1.0	2.0	< 1.0	7.9	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			20	50000		< 20	4.3	2.3	3.3	< 1.0	8.7	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			90	50000		< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			3	50000		< 20	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			5000	50000		NT	< 25	< 25 R	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	367	< 25	< 50	< 25 K-	< 25	< 100	<630	<130	<130	<500	<250	<250	<250	<250	<250
Ethylbenzene			20000	5000		< 20	< 1.0	< 1.0	< 1.0	< 1.0	0.41 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			NS	NS		< 200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<25	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			NS	NS		< 20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			50000	50000		< 20	64.2	5.3 J+	2.5	2.7	6.9 J+	7.9	< 1.0	< 1.0	0.26 J	1.1	< 1.0	4.8	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	<5.0	<1.0	<1.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			2000	50000		< 200	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<10	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			700	20000		< 20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<25	<5.0	<5.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			NS	NS		NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<10	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			10	50000		< 20	5.7	3.0 J	5.7	5.8	15.6	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			20	30000		1880	18600	19500	17300	18000	48500	135	268	115	76.1	64.3	71.5	698	79.2	2580	171	85.1	252	162	134	1340	70.9	32.9	240	48	25	23	18	33 K+
Tetrahydrofuran			NS	NS		NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	<50	<10	<10	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0
Toluene			50000	40000		< 20	1.2	0.72 J	1.1	0.99 J	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			4000	20000		1720	19100	9620 J+	13300	14200	42500 J+	29.5	217	8.5	9.2	10.0	5.9	16.6 J+	7.0	12.2	3.7	2.1	2.3	3.0	1.3	9.1	<1.0	<1.0	5.8	<1.0	<1.0	<1.0	<1.0	1.3
1,1,2-Trichloroethane			900	50000		< 20	< 1.0	< 1.0	0.94 J	0.99 J	3.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			5	5000		898	10000	5530	9090	9660	30600	18.9	70.6	11.0	8.9	8.0	10.1	31.2	8.2	35.6	6.5	4.8	5.9	7.1	5.4	2.2 J	3.60	1.90	3.0	1.7	2.00	2.1	1.8	3.1
Vinyl chloride			2	50000		< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			3000	5000		< 40	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			3000	5000		< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			3000	5000		ND	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:					GEO-1	GEO-1	GEO-2	GEO-2	GEO-2	GEO-2	GEO2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2
Sample Name:					GEO-1	GEO-1	GEO-2	GEO-2	GEO-2	GEO-2	GEO2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2
Well Screen Interval (ft bgs):					5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	4/12/07	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:					11/13/25	2/5/26	8/16/04	5/23/06	10/5/06	1/17/07	GEI	7/15/08	10/22/08	1/13/09	4/13/09	7/15/09	10/14/09	4/13/10	4/21/11	5/1/13	4/30/14	4/2/15	4/29/16	4/29/16	4/18/17	4/4/18	4/4/2018	4/16/2019	4/16/2019	4/17/2020	4/17/2020
Collected By:					GEI	GEI	GeoInsight	GEI	GEI	GEI		GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW 2 Standard**	**Method 1 GW 3 Standard**																										
Volatile Organic Compounds (VOCs)	8260	µg/l																												
Acetone			50000	50000	<5.0	<5.0	487	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<10	<10	<5.0	<5.0
Benzene			1000	10000	<0.50	<0.50	< 5.0	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5
Bromodichloromethane			6	50000	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			50000	50000	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<10	<10	<5.0	<5.0
Carbon disulfide			NS	NS	<2.0	<2.0	< 25	< 5.0	< 5.0	4.5 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			2	5000	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			200	1000	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			NS	NS	<2.0	<2.0	< 10	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0
Chloroform			50	20000	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	0.62 J	< 1.0	0.60 J	0.84 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.56 J	0.76 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			NS	NS	<2.0	<2.0	< 10	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0
1,4-Dichlorobenzene			60	8000	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			2000	20000	<1.0	<1.0	< 5.0	2.2	2.0	< 5.0	2.5	1.1	< 1.0	< 1.0	0.29 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			5	20000	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			80	30000	<1.0	<1.0	23.2	14.2	26.3	25.2	11.5	13.4	8.4	7.0	17.0	6.5	10.8	13.8	3.7	7.8	3.8	3.1	4.3	4.9	1.5	1.1	1.1	<1.0	<1.0	2.3	2.6
cis-1,2-Dichloroethylene			20	50000	<1.0	<1.0	< 5.0	< 1.0	1.6	9.0	< 1.0	< 1.0	< 1.0	< 1.0	2.8	< 1.0	< 1.0	3.1	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			90	50000	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			3	50000	<1.0	<1.0	< 5.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			5000	50000	<250 K-	<250	NT	< 25	< 25 R	< 130	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 25 K-	< 25	< 25	< 25	<130	<130	<130	<130	<130	<250	<250
Ethylbenzene			20000	5000	<1.0	<1.0	< 5.0	< 1.0	< 1.0	3.1 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			NS	NS	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			NS	NS	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			50000	50000	<2.0	<2.0	37.6	79.9	12.8 J+	9.8	16.5	< 1.0	5.9	0.45 J	< 1.0	0.29 J	0.56 J	< 1.0	< 1.0	4.5	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0
Methylene chloride			2000	50000	<2.0	<2.0	< 5.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			700	20000	<2.0	<2.0	< 5.0	< 5.0	< 5.0	8.3 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0
Tert-amyl methyl ether			NS	NS	<2.0	<2.0	NT	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			10	50000	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			20	30000	37 K+	12	285	131	693	1420	120	115	140	110	263 G	202	167	480	66.4	140	119	76.3	147	145	50.7	48.5	45.4	26.3	25.6	120	130
Tetrahydrofuran			NS	NS	<2.0	<2.0	NT	< 10	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	< 10	<10	<10	<10	<10	<10	<2.0	<2.0
Toluene			50000	40000	<1.0	<1.0	< 5.0	< 1.0	< 1.0	3.4 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	1.8	1.7	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			4000	20000	<1.0	<1.0	490	125	376	867	147 J+	70.5	25.5	22.5	110	29.7	37.5 J+	61.9	4.3	16.0	15.5	11.4	18.4	20.4	5.2	3.7	3.6	1.1	1.1	9.2	9.5
1,1,2-Trichloroethane			900	50000	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			5	5000	2.5	<1.0	60	27.3	170	602	36.0	22.8	20.9	19.7	99.7	31.7	33.4	103	14.7	14.3	12.2	9.9	12.7	12.8	7.1	6.1	6.0	4.4	4.2	6.1	6.4
Vinyl chloride			2	50000	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			3000	5000	<2.0	<2.0	< 10	< 1.0	< 1.0	11.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0
o-Xylene			3000	5000	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			3000	5000	<1.0	<1.0	ND	< 1.0	< 1.0	14.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:				GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-3	GEO-3	GEO-3	GEO-3	GEO-3	GEO-3	GEO3	GEO-4	GEO-4	GEO-4	GEO-4
Sample Name:				GEO-2	MW901	GEO-2	MW901	GEO-2	MW901	GEO-2	MW901	GEO-2	MW901	GEO-2	MW901	GEO-2	MW901	GEO-3	GEO-3	MW900 (FD)	GEO-3	MW900 (FD)	GEO-3	GEO3	GEO-4	GEO-4	GEO-4	GEO-4
Well Screen Interval (ft bgs):				5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	4 to 19	4 to 19	4 to 19	4 to 19
Sample Date:				4/14/2021	4/14/2021	4/14/2022	4/14/2022	4/18/2023	4/18/2023	4/4/2024	4/4/2024	4/23/2025	4/23/2025	11/11/2025	11/11/2025	2/3/2026	2/3/2026	8/16/04	5/24/06	5/24/06	10/4/06	10/4/06	1/16/07	4/13/07	8/16/04	5/24/06	10/4/06	1/16/07
Collected By:				GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW 2 Standard**	**Method 1 GW 3 Standard**																								
Volatile Organic Compounds (VOCs)	8260	µg/l																										
Acetone			50000	50000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10.0	<10	<10.0	< 1000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2000	< 5.0	< 5.0	< 100
Benzene			1000	10000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 100	< 0.50	< 0.50	< 10
Bromodichloromethane			6	50000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20
2-Butanone (MEK)			50000	50000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1000	< 5.0	< 5.0	< 100
Carbon disulfide			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100
Carbon tetrachloride			2	5000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20
Chlorobenzene			200	1000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20
Chloroethane			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 100	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 200	< 2.0	< 2.0	< 40
Chloroform			50	20000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	2.5	< 20
Chloromethane			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 100	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 200	< 2.0	< 2.0	< 40
1,4-Dichlorobenzene			60	8000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20
1,1-Dichloroethane			2000	20000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	11.6	11.6	2.6	< 1.0	< 100	2.7	7.1	< 20
1,2-Dichloroethane			5	20000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20
1,1-Dichloroethylene			80	30000	1.7	1.8	2.6	2.3	3.3	2.7	1.2	1.1	<1.0	<1.0	1.5	1.6	5.6	5.4	108	< 1.0	< 1.0	59.3	59.1	11.5	1.4	< 100	6.1	17.8	< 20
cis-1,2-Dichloroethylene			20	50000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.8	3.5	<1.0	<1.0	< 5.0	< 1.0	< 1.0	2.8	2.6	1.2	< 1.0	< 100	6.3	16.7	< 20
trans-1,2-Dichloroethylene			90	50000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20
1,2-Dichloropropane			3	50000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 100	< 2.0	< 2.0	< 40
1,4-Dioxane			5000	50000	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<50	<50	<50	<50	NT	< 25	< 25	< 25 R	< 25 R	< 25	< 25	NT	< 25	< 25 R	< 5.0
Ethylbenzene			20000	5000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20
2-Hexanone			NS	NS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1000	< 5.0	< 5.0	< 100
4-Isopropyltoluene			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	< 5.0	< 100
Methyl tert-butyl ether			50000	50000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 1.0	< 1.0	1.2 J+	1.1 J+	< 1.0	< 1.0	< 100	< 1.0	1.5 J+	< 20
Methylene chloride			2000	50000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 2.0	< 2.0	< 5.0	< 2.0	< 5.0	< 2.0	< 1000	< 2.0	< 2.0	< 40
Naphthalene			700	20000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	< 5.0	< 100
Tert-amyl methyl ether			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 40
1,1,1,2-Tetrachloroethane			10	50000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	0.84 J	< 100
Tetrachloroethylene (PCE)			20	30000	86	86	96	84	120	120	58	57	34 K+	34 K+	69	69	170	170	4020	162	157	2720	2340	529	93.2	12900	6690	24100	16700
Tetrahydrofuran			NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 200
Toluene			50000	40000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20
1,1,1-Trichloroethane (TCA)			4000	20000	11	11	17	16	19	16	3.9	3.8	2.3	2.2	7.1	6.9	32	32	204	4.0	4.4	78.2 J+	77.2 J+	16.2	< 1.0	1170	113	321 J+	113
1,1,2-Trichloroethane			900	50000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20
Trichloroethylene (TCE)			5	5000	3.8	3.8	4.2	4.0	7.8	6.8	7.1	7.1	4.6	4.7	7.8	8.0	7.4	7.6	507	14.4	14.1	209	207	70.2	10.0	720	86.8	235	129
Vinyl chloride			2	50000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20
m,p-Xylene			3000	5000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 1.0	< 1.0	< 20
o-Xylene			3000	5000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20
Total Xylene			3000	5000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND	< 1.0	< 1.0	< 20

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	GEO-4	GEO-4	GEO-4	GEO-4	GEO-4	GEO-5	GEO-5	GEO-5	GEO-5	GEO-5	GEO-5	GEO-5	GEO-5	GEO-5	GEO-6	GEO-6	GEO-6	GEO-6	GEO-6	GEO6	GEO-6	GEO-6	GEO-6	GEO-6	MW-102	MW102	MW102
					Sample Name:	GEO-4	GEO-4	GEO-4	GEO-4	GEO-4	GEO-5	GEO-5	GEO-5	GEO-5	GEO-5	GEO-5	GEO-5	GEO-5	GEO-5	GEO-6	GEO-6	GEO-6	GEO-6	GEO-6	GEO-6	GEO-6	GEO-6	GEO-6	GEO-6	GEO-6	MW-102	MW102	MW102
					Well Screen Interval (ft bgs):	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	6 to 16	6 to 16	6 to 16
					Sample Date:	4/16/07	4/4/24	3/18/25	11/12/25	2/5/26	8/16/04	5/24/06	10/4/06	1/16/07	4/16/07	4/3/24	3/18/25	11/12/25	2/5/26	8/16/04	5/24/06	10/4/06	1/16/07	1/16/07	4/16/07	4/16/07	4/3/24	3/19/25	11/12/25	2/3/26	5/24/06	10/5/06	1/16/07
					Collected By:	GEI	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																														
Acetone			50000	50000		< 50	<120	<200	<1000	<250	< 2000	< 5.0	< 5.0	< 250	< 5.0	<5.0	<25	<10	<120	< 200	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	<50	<50	<50	<100	< 5.0	< 5.0	< 5.0
Benzene			1000	10000		< 5.0	<12	<20	<100	<25	< 100	< 0.50	< 0.50	< 25	< 0.50	<0.5	<2.5	<2.5	<12	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	<5	<5.0	<5.0	<10	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000		< 10	<25	<40	<100	<50	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000		< 50	<120	<200	<1000	<250	< 1000	< 5.0	< 5.0	< 250	< 5.0	<5.0	<25	<25	<120	< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	<50	<50	<50	<100	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS		< 50	<50	<80	<500	<100	< 5.0	< 5.0	< 5.0	< 250	< 5.0	<2.0	<10	<10	<50	< 5.0	< 5.0	< 5.0	0.81 J	< 5.0	< 10	< 5.0	<20	<20	<20	<40	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5000		< 10	<25	<40	<100	<50	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1000		< 10	<25	<40	<100	<50	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS		< 20	<50	<80	<200	<100	< 200	< 2.0	< 2.0	< 100	< 2.0	<2.0	<10	<10	<50	< 20	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	<20	<20	<20	<40	< 2.0	< 2.0	< 2.0
Chloroform			50	20000		< 10	<25	<40	<200	<50	< 100	< 1.0	0.62 J	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS		< 20	<50	<80	<200	<100	< 200	< 2.0	< 2.0	< 100	< 2.0	<2.0	<10	<10	<50	< 20	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	<20	<20	<20	<40	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8000		< 10	<25	<40	<100	<50	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2000	20000		< 10	<25	<40	<100	<50	< 100	3.0	9.7	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 10	2.0	4.4	1.7	1.6	0.92 J	1.1	<10	<10	<10	<20	< 1.0	0.88 J	< 1.0
1,2-Dichloroethane			5	20000		< 10	<25	<40	<100	<50	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30000		< 10	<25	<40	<100	<50	< 100	8.9	32.7	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 10	4.6	11.0	4.4	3.2	2.8	3.8	<10	<10	<10	<20	6.3	50.2	30
cis-1,2-Dichloroethylene			20	50000		5.5 J	<25	<40	<100	<50	< 100	12.5	35.2	< 50	< 1.0	<1.0	<5.0	<5.0	<25	14.8	9.1	15.4	7.7	6.9	5.3	6.3	<10	<10	<10	<20	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			90	50000		< 10	<25	<40	<100	<50	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50000		< 20	<25	<40	<100	<50	< 100	< 2.0	< 2.0	< 100	< 2.0	<2.0	<10	<10	<50	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	<10	<10	<10	<20	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5000	50000		< 250	<6200	<10000	<10000	<12000	NT	< 25	< 25 R	< 1300	< 25	<250	<1200	<1200	<6200 F-	NT	< 25	< 25 R	< 25	< 25	< 5.0	< 25	<2500	<2500	<1000	<5000	< 25	< 25 R	< 25
Ethylbenzene			20000	5000		< 10	<25	<40	<100	<50	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS		< 50	<120	<200	<200	<250	< 1000	< 5.0	< 5.0	< 250	< 5.0	<5.0	<25	<25	<25	< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	<50	<50	<50	<100	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS		< 50	<50	<80	<100	<100	< 100	< 5.0	< 5.0	< 250	< 5.0	<2.0	<10	<10	<50	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	<20	<20	<20	<40	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50000	50000		< 10	<50	<80	<100	<100	< 100	1.3	3.3 J+	< 50	< 1.0	<2.0	<10	<10	<50	< 10	1.3	1.9 J+	1.2	1.2	0.80 J	0.81 J	<20	<20	<20	<40	< 1.0	4.5 J+	2.7
Methylene chloride			2000	50000		< 20	<50	<80	<100	<100	< 1000	< 2.0	< 2.0	< 100	< 2.0	<2.0	<10	<10	<50	< 100	< 2.0	< 2.0	< 2.0	1.3 J	2.5 J	< 2.0	<20	<20	<20	<40	< 2.0	< 2.0	< 2.0
Naphthalene			700	20000		< 50	<50	<80	<100	<100	< 100	< 5.0	< 5.0	< 250	< 5.0	<2.0	<10	<10	<50	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	<20	<20	<20	<40	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS		< 20	<50	<80	<100	<100	NT	< 2.0	< 2.0	< 100	< 2.0	<2.0	<10	<10	<50	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	<20	<20	<20	<40	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50000		< 50	<25	<40	<100	<50	< 100	< 5.0	< 5.0	< 250	< 5.0	<1.0	<5.0	<5.0	<25	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	<10	<10	<10	<20	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30000		8240	3600	6500	8500	5800	14400	2440	12900	254 F+	17.9	100	690	170	2300	782	675	1980	632	594 F+	618	497	1900	1300	2500	1600	200	898	692
Tetrahydrofuran			NS	NS		< 100	<50	<80	<100	<100	NT	< 10	< 10	< 500	< 10	<2.0	<10	<10	<50	NT	< 10	< 10	< 10	< 10	< 20	< 10	<20	<20	<20	<40	< 10	< 10	< 10
Toluene			50000	40000		< 10	<25	<40	<100	<50	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4000	20000		70.9	<25	<40	<100	<50	646	246	652	< 50	< 1.0	<1.0	<5.0	<5.0	<25	27.8	42.5	77.2 J+	33.7	25.3	21.2	26.8	<10	<10	<10	<20	< 1.0	65.7 J+	32.6
1,1,2-Trichloroethane			900	50000		< 10	<25	<40	<100	<50	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5000		74.8	26	47	<100	<100	404	146	446	< 50	< 1.0	2.0	10.0	2.8	32	122	78.8	131	75.3	56.5	55.5	70.5	37	35	58	38	15.6	89.1	57.0
Vinyl chloride			2	50000		< 10	<25	<40	<100	<50	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 1.0	< 1.0	< 1.0
m,p-Xylene			3000	5000		< 10	<50	<80	<200	<100	< 200	< 1.0	< 1.0	< 50	< 1.0	<2.0	<10	<10	<50	< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<20	<20	<20	<40	< 1.0	< 1.0	< 1.0
o-Xylene			3000	5000		< 10	<25	<40	<100	<50	< 100	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 1.0	< 1.0	< 1.0
Total Xylene			3000	5000		< 10	<25	<40	<100	<50	ND	< 1.0	< 1.0	< 50	< 1.0	<1.0	<5.0	<5.0	<25	ND	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<10	<10	<10	<20	< 1.0	< 1.0	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW102	MW102	MW102	MW102	MW102	MW102	MW102	MW102	MW102	MW103	MW103	MW103	MW-103	MW103	MW103	MW103	MW103	MW103	MW103	MW103	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104
					Sample Name:	MW102	MW102	MW102	MW102	MW102	MW102	MW102	MW102	MW102	MW-103	MW103	MW103	MW-103	MW103	MW103	MW103	MW103	MW103	MW103	MW103	MW-104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104
					Well Screen Interval (ft bgs):	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	5 to 15	5 to 15	6 to 16	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15
					Sample Date:	4/13/07	7/18/07	10/10/07	1/10/08	4/17/08	4/3/24	4/23/25	11/11/25	2/3/26	5/24/06	8/7/06	10/5/06	1/16/07	1/18/07	4/13/07	4/3/24	4/23/25	11/11/25	2/3/26	5/23/06	10/5/06	1/16/07	4/13/07	7/19/07	10/15/07	1/11/08	4/15/08	7/15/08	10/21/08
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																																
Acetone			50000	50000		< 5.0	NT	< 10	< 5.0	< 5.0	<5.0	<5.0	<10	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	<5.0	<5.0	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	4.0 J	< 5.0	< 5.0
Benzene			1000	10000		< 0.50	NT	< 1.0	< 0.50	< 0.50	<0.5	<0.50	<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	<0.5	<0.50	<0.50	<0.50	< 0.50	0.60	< 0.50	< 0.50	NT	0.43 J	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000		< 1.0	NT	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	0.31 J	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000		< 5.0	NT	< 10	< 5.0	< 5.0	<5	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	<5	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS		< 5.0	NT	< 10	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5000		< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1000		< 1.0	NT	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS		< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	<2.0	<2.0	<2.0	<2.0	2.7	10.3	6.1	4.7	6.9	5.6	2.3	< 2.0	3.9	5.9
Chloroform			50	20000		< 1.0	NT	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	0.65 J	0.62 J	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS		< 2.0	NT	< 4.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8000		< 1.0	NT	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2000	20000		< 1.0	0.42 J	2.1	4.1	0.51 J	<1.0	<1.0	<1.0	<1.0	27.2	3.7	13.0	11.5	10.1	7.9	<1.0	<1.0	<1.0	<1.0	33.0	98.9	57.1	46.8	68.3	86.6	38.7	33.0	71.5	74.3
1,2-Dichloroethane			5	20000		< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30000		< 1.0	23.6	39.7	51.8	22.2 C+	<1.0	<1.0	<1.0	<1.0	13.4	2.0	6.5	4.3	4.3	8	<1.0	<1.0	<1.0	<1.0	3.3	9.4	2.9	10	2.6	4.5	1.7	1.8	5.1	2.4
cis-1,2-Dichloroethylene			20	50000		< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	3.0	2.5	< 1.0	< 1.0	< 5.0	<1.0	<1.0	1	<1.0	198	435	244	250	194	279	148	145	203	192 F-
trans-1,2-Dichloroethylene			90	50000		< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	2.2	9.3	6.2	3.6	2.5	4.1	3.5	2.0	3.2	2.7
1,2-Dichloropropane			3	50000		< 2.0	NT	< 4.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5000	50000		< 25	NT	< 50	< 25	< 25	<250	<250	<50	<250	< 25	< 25	< 25 R	< 25	< 25	< 130	<250	<250	<50	<50	< 25	< 25 R	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25
Ethylbenzene			20000	5000		< 1.0	NT	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS		< 5.0	NT	< 10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS		< 5.0	NT	< 10	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50000	50000		< 1.0	NT	17.3	24.2	1.7 C+	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	0.65 J J+	< 1.0	< 1.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 1.0	10.0 J+	1.0	0.93 J J+	NT	7.2	1.1	0.72 J	3.9	2.4
Methylene chloride			2000	50000		< 2.0	NT	4.3	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20000		< 5.0	NT	< 10	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS		< 2.0	NT	< 4.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50000		< 5.0	NT	< 10	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 25	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30000		20.3	524	685	606	438 C+	13	5.5	35	66	2600	592	1510	1200 F+	1250 F-	1510	43	27	53	48	60.4	160	29.3	39.6	31.2	49.3	12.1	22.4	16.8	22.8
Tetrahydrofuran			NS	NS		< 10	NT	< 20	< 10	< 10	<2.0	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10	< 10	< 50	<2.0	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10
Toluene			50000	40000		< 1.0	NT	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4000	20000		< 1.0	26.3	69.8	121	21.9 C+	<1.0	<1.0	<1.0	<1.0	34.0	4.4	14.4 J+	17.6	21.0	< 5.0	<1.0	<1.0	<1.0	<1.0	21.0	138 J+	23.2	5.6 J+	28.0	89.8	12.5	10.8	42.9	26.1
1,1,2-Trichloroethane			900	50000		< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5000		2.0	46.1	61.0	65.3	35.6 C+	1.3	<1.0	3.3	4.5	109	24.0	60.4	37.0	38.0	58.7	3.5	2.3	5.5	3.2	63.4	110	49.1	51.4	40.4	< 1.0	27.0	34.9	37.1	38.2
Vinyl chloride			2	50000		< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	23.7	36.4	47.4	40.4	38.2	68.0	26.4	29.9	41.8 F+	42.6
m,p-Xylene			3000	5000		< 1.0	NT	< 2.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3000	5000		< 1.0	NT	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3000	5000		< 1.0	NT	< 2.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104R	MW104R	MW104R	MW-104R	MW-104R	MW-104R	MW-104R	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105
					Sample Name:	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104R	MW104R	MW104R	MW-104R	MW-104R	MW-104R	MW-104R	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105
					Well Screen Interval (ft bgs):	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29
					Sample Date:	1/14/09	4/14/09	7/15/09	10/14/09	4/12/10	4/21/11	4/17/12	4/24/13	4/30/14	4/2/15	4/29/16	4/17/17	4/28/17	4/4/18	4/4/24	9/20/24	11/14/24	1/20/25	4/23/25	11/10/25	2/3/26	5/24/06	10/5/06	1/17/07	4/16/07	7/19/07	10/10/07	1/9/08	4/18/08
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l															NT																		
Acetone			50000	50000		< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	9.0	4.8	< 10	< 10	< 10	< 10		<10	<10	<50	< 25	< 25	<25	<25	<100	<100 G	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Benzene			1000	10000		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		<0.50	<0.50	<5	< 2.5	< 2.5	<2.5	<2.5	<2.5	<2.5	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 1.0	< 1.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000		< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<10	<10	<50	< 25	< 25	<25	<25	<25	<25 K-	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<2.0	<2.0	<20	< 10	< 10	<10	<10	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS		< 2.0	< 2.0	2.8	4.2	< 2.0	< 2.0	2.6	1.9 J	< 2.0	< 2.0	< 2.0		<1.0	<1.0	<20	< 10	< 10	<10	<10	<10	<10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<1.0	<1.0	<20	< 10	< 10	<10	<10	<10	<10	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2000	20000		33.2	37.9	47.1	73.9	19.6	24.3	< 1.0	28.4	27.1	9.7	38.1		21.1	25.4	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			5	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30000		2.6	2.1	2.2	3.6	1.9	6.1	1.1	1.9	0.95 J	0.40 J	1.40		0.64 J	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			20	50000		189	236 F-	212	334	112	154	67.3	93.6	95.2	49.8	77.3		83.9	67.6	12	20	12	13	8.9	<10	13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			90	50000		2.4	3.0	2.6	2.6	1.1	6.4	< 1.0	3.1	2.3	0.64 J	1.1		1.5	1.2	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5000	50000		< 25	< 25	< 25	< 25	< 25	< 25	< 25 F- K-	< 50	< 25 K-	< 25	< 25		<130	<130	<2500	< 1200	< 1200	<1200	<1200	<500	<500 G	< 25	< 25 R	< 25	< 25	NT	< 25	< 25	< 25
Ethylbenzene			20000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<5.0	<5.0	<50	< 25	< 25	<25	<25	<25	<25	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<2.0	<2.0	<20	< 10	< 10	<10	<10	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50000	50000		0.63 J	< 1.0	0.98 J	1.8	< 1.0	< 1.0	0.90 J	< 1.0	< 1.0	< 1.0	0.61 J		<1.0	<1.0	<20	< 10	< 10	<10	<10	<10	<10	< 1.0	< 1.0 J+	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Methylene chloride			2000	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<2.0	<2.0	<20	< 10	< 10	<10	<10	<10	<10	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0
Naphthalene			700	20000		< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<5.0	<5.0	<20	< 10	< 10	<10	<10	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<2.0	<2.0	<20	< 10	< 10	<10	<10	<10	<10	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30000		22.6	19.3	22.0	16.9	14	14.8	11.9	9.7	10.1	10.7	6.5		15.1	10.7	2200	510	620	690	1700	790	420	7.8	0.69 J	0.67 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			NS	NS		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10		<10	<10	<20	< 10	< 10	<10	<10	<10	<10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10
Toluene			50000	40000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4000	20000		13.3	11.8 F+	19.2	24.3 J+	4.4	5.1	11.4	4.3	5.1	2.8	8.6		4.1	3.7	<10	6.6	5.4	6.8	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			900	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5000		44.8	53.7 F+	44.4	43.7	24.3	26.4	13.9	14.1	16.3	15.6	12.4		21.3	15	31	19	22	28	25	24	18	< 1.0	3.4	3.2	1.5	1.5	1.6	2.2	1.7
Vinyl chloride			2	50000		50.1	66.5	57.0	107.0	34.9	53.9	39.3	28.9	51.7	11.8	16.1		9.6	16.4	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<20	< 10	< 10	<10	<10	<10	<10	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
o-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Total Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	<10	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW107	MW107	MW107	MW107	MW107	MW107	MW107	MW107	MW107
					Sample Name:	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW106	MW107	MW107	MW107	MW107	MW107	MW107	MW107	MW107	MW107	MW107
					Well Screen Interval (ft bgs):	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12
					Sample Date:	7/14/08	10/22/08	1/12/09	4/13/09	7/14/09	10/14/09	4/12/10	4/20/11	4/17/12	4/23/13	1/18/07	4/13/07	7/19/07	10/10/07	1/10/08	4/17/08	4/3/24	3/19/25	11/12/25	2/3/26	1/18/07	4/13/07	7/18/07	10/10/07	1/10/08	4/17/08	4/2/24	4/22/25	11/12/25
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																																
Acetone			50000	50000		< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	NT	69.9	< 5.0	9.2	<5.0	<5.0	<10
Benzene			1000	10000		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	<0.5	<0.50	<0.50	<0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	<0.5	<0.50	<0.50
Bromodichloromethane			6	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			50000	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	NT	7.7	< 5.0	1.1 J	<5.0	<5.0	<5.0
Carbon disulfide			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
Carbon tetrachloride			2	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 G	< 1.0	<1.0	<1.0	<1.0
Chlorobenzene			200	1000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Chloroethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	<2.0	<2.0	<2.0
Chloroform			50	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	1.2	NT	0.56 J	0.39 J	1.7	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Chloromethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	2.5	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			60	8000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			2000	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	4.6	4.3	0.52 J	< 1.0	2.1	3.4	1.1	<1.0	<1.0
1,2-Dichloroethane			5	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			80	30000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.4	6.3	3.4	3.9	4.1	1.5	1.1	1.3	1.6	1.2	3.2	3.7	< 1.0	< 1.0	1.3 G	2.3	<1.0	<1.0	2.2
cis-1,2-Dichloroethylene			20	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			90	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			3	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0
1,4-Dioxane			5000	50000		< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25 K-	< 50	< 25	< 25	NT	< 25	< 25	< 25	<250	<250	<250	<250	< 25	< 25	NT	< 25	< 25	< 25	<250	<250	<50
Ethylbenzene			20000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
2-Hexanone			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			50000	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	12.2	12.1	NT	252	78.0	4.9	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	NT	< 1.0	0.21 J	< 1.0	<2.0	<2.0	<2.0
Methylene chloride			2000	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0
Naphthalene			700	20000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	2.2	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			10	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			20	30000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.53 J	1.0 F-	1.2	2.3	1.7	2.3	0.44 J	<1.0	<1.0	1	<1.0	< 1.0 F-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			NS	NS		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	<2.0	<2.0	<2.0	<2.0	< 10	< 10	NT	< 10	< 10	< 10	<2.0	<2.0	<2.0
Toluene			50000	40000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	110	0.40 J	< 1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			4000	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	15.3	1.5 J+	6.4	11.3	14.9	2.3	2.4	3.5	4.4	3.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			900	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			5	5000		1.7	1.8	1.7	2.3	1.6	0.78 J	1.1	1.8	1.7	1.6	3.7	4.8	3.6	4.4	4.9	1.2	1.7	2.3	3.3	2.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Vinyl chloride			2	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
m,p-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0
o-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Total Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:				MW107	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW109	MW109	MW109	MW109	MW109	MW109	MW111	MW111	MW111	MW111	MW111	MW111	MW111R	MW111R	MW111R	MW111R	MW112A
Sample Name:				MW107	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW108	MW109	MW109	MW109	MW109	MW109	MW109	MW111	MW111	MW111	MW111	MW111	MW111	MW111R	MW111R	MW111R	MW111R	MW112A
Well Screen Interval (ft bgs):				2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 13	2 to 13	2 to 13	2 to 13	3 to 13	3 to 13	3 to 13	3 to 13	3 to 13	3 to 13	4 to 14	4 to 14	4 to 14	4 to 14	4 to 14	4 to 14	5 to 15	5 to 15	5 to 15	5 to 15	4 to 19
Sample Date:				2/5/26	1/18/07	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08	9/15/23	4/2/24	4/22/25	11/12/25	2/4/26	1/18/07	4/16/07	4/17/08	4/2/24	3/19/25	11/13/25	1/18/07	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08	3/7/25	4/24/25	11/12/25	2/4/26	3/23/07
Collected By:				GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW 2 Standard**	**Method 1 GW 3 Standard**																													
Volatile Organic Compounds (VOCs)	8260	µg/l																															
Acetone			50000	50000	6.6	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	< 50	< 130	NT	< 250	< 5.0	< 10	8	6.9	6.9	<5.0	< 5.0
Benzene			1000	10000	<0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	<0.5	<0.50	<0.50	<0.50	< 0.50	< 0.50	< 0.50	<0.5	<0.50	<0.50	< 5.0	< 13	NT	< 25	< 0.50	< 1.0	<0.50	<0.50	<0.50	<0.50	< 0.50
Bromodichloromethane			6	50000	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 10	< 25	NT	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0	< 1.0
2-Butanone (MEK)			50000	50000	<5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	< 50	< 130	NT	< 250	< 5.0	< 10	<5.0	<5.0 K-	<5.0	<5.0	< 5.0
Carbon disulfide			NS	NS	<2.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 50	< 130	NT	< 250	< 5.0	< 10	<2.0	<2.0	<2.0	<2.0	< 5.0
Carbon tetrachloride			2	5000	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 10	< 25	< 1.0	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0	< 1.0
Chlorobenzene			200	1000	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	0.28 J	<1.0	<1.0	<1.0	< 10	< 25	NT	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0	< 1.0
Chloroethane			NS	NS	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 20	< 50	< 2.0	< 100	< 2.0	< 4.0	<2.0	<2.0	<2.0	<2.0	< 2.0
Chloroform			50	20000	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 10	< 25	NT	< 50	1.2	< 2.0	<1.0	<1.0	<1.0	<1.0	0.35 J
Chloromethane			NS	NS	<2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 20	< 50	NT	< 100	< 2.0	< 4.0	<2.0	<2.0 K-	<2.0	<2.0	< 2.0
1,4-Dichlorobenzene			60	8000	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 10	< 25	NT	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0	< 1.0
1,1-Dichloroethane			2000	20000	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	1.2	< 1.0	< 1.0	<1.0	<1.0	<1.0	30.9	15.7 J	16.8	19.1 J	5.6	4.3 C+	<1.0	<1.0	<1.0	<1.0	27.6
1,2-Dichloroethane			5	20000	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 10	< 25	0.43 J	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0	< 1.0
1,1-Dichloroethylene			80	30000	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	17.6	< 25	10.5	< 50	4.1	3.7 C+	<1.0	<1.0	<1.0	<1.0	19.7
cis-1,2-Dichloroethylene			20	50000	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	22.6	17.2 J	56.3	63.9	10.6	4.4 C+	7.0	2.8	2.6	<1.0	< 1.0
trans-1,2-Dichloroethylene			90	50000	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 10	< 25	1.5	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0	< 1.0
1,2-Dichloropropane			3	50000	<1.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 20	< 50	NT	< 100	< 2.0	< 4.0	<1.0	<1.0	<1.0	<1.0	< 2.0
1,4-Dioxane			5000	50000	<250 F-	< 25	< 25	NT	< 25	< 25	< 25	< 250	<250	<250	<50	<50	< 25	< 25	< 25	<250	<250	<250 K-	< 250	< 630	NT	< 1300	< 25	< 50	<250	<250	<250	<250	< 25
Ethylbenzene			20000	5000	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 10	< 25	NT	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0	< 1.0
2-Hexanone			NS	NS	<5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	< 50	< 130	NT	< 250	< 5.0	< 10	<5.0	<5.0 K-	<5.0	<5.0	< 5.0
4-Isopropyltoluene			NS	NS	<2.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 50	< 130	NT	< 250	< 5.0	< 10	<2.0	<2.0	<2.0	<2.0	< 5.0
Methyl tert-butyl ether			50000	50000	<2.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 2.0	<2.0	<2.0	<2.0	<2.0	3.5	< 1.0	< 1.0	<2.0	<2.0	<2.0	< 10	< 25	NT	< 50	0.45 J	< 2.0	<2.0	<2.0	<2.0	<2.0	10.8
Methylene chloride			2000	50000	<2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 20	31.4 J	NT	< 100	< 2.0	< 4.0	<2.0	<2.0	<2.0	<2.0	< 2.0
Naphthalene			700	20000	<2.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 50	< 130	NT	< 250	< 5.0	< 10	<2.0	<2.0	<2.0	<2.0	< 5.0
Tert-amyl methyl ether			NS	NS	<2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 20	< 50	NT	< 100	< 2.0	< 4.0	<2.0	<2.0	<2.0	<2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50000	<1.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	< 50	< 130	NT	< 250	< 5.0	< 10	<1.0	<1.0	<1.0	<1.0	< 5.0
Tetrachloroethylene (PCE)			20	30000	<1.0	< 1.0 F-	< 1.0	< 1.0	0.60 J	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	178 F-	28.5	17.4	12	4.8	17 K+	13700 F-	7370	6340	8350	3100	1160 C+	74	39	45	4.5	261
Tetrahydrofuran			NS	NS	<2.0	< 10	< 10	NT	< 10	< 10	< 10	< 2.0	<2.0	<2.0	<2.0	<2.0	< 10	< 10	< 10	<2.0	<2.0	<2.0	< 100	< 250	NT	< 500	< 10	< 20	<2.0	4.9 K-	<2.0	<2.0	< 10
Toluene			50000	40000	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 10	< 25	NT	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0	0.54 J
1,1,1-Trichloroethane (TCA)			4000	20000	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	0.77 J	0.97 J	0.31 J	<1.0	<1.0	<1.0	142	56.5	89.1	84.1	41.3	17.6 C+	<1.0	<1.0	<1.0	<1.0	1.3
1,1,2-Trichloroethane			900	50000	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 10	< 25	< 1.0	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0	< 1.0
Trichloroethylene (TCE)			5	5000	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	4.5	< 1.0	0.52 J	<1.0	<1.0	1.1	150	84.4	120	125	42.1	19.9 C+	5.3	2.4	3.6	<1.0	34.0
Vinyl chloride			2	50000	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 10	< 25	< 1.0	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0	0.84 J
m,p-Xylene			3000	5000	<2.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	< 10	< 25	NT	< 50	< 1.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 1.0
o-Xylene			3000	5000	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 10	< 25	NT	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0	< 1.0
Total Xylene			3000	5000	<1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 10	< 25	NT	< 50	< 1.0	< 2.0	<1.0	<1.0	<1.0	<1.0	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A
					Sample Name:	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW900 (FD)	MW112A	MW901 (FD)	MW112A	MW900 (FD)	MW112A	MW901 (FD)	MW112A	MW901 (FD)	MW112A	MW900 (FD)	MW112A	MW900 (FD)	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW900 (FD)	MW112A	MW112A
					Well Screen Interval (ft bgs):	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19
					Sample Date:	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08	7/14/08	7/14/08	10/22/08	10/22/08	1/12/09	1/12/09	4/13/09	4/13/09	7/14/09	7/14/09	10/14/09	10/14/09	4/12/10	4/12/10	10/27/10	4/20/11	4/20/11	11/16/11	4/16/12	4/16/12	11/12/12	4/24/13
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																													
Acetone			50000	50000		< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0 F+	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 10	< 10	< 5.0	< 5.0 K-	< 5.0 K-	< 10 K-	< 20
Benzene			1000	10000		< 0.50	NT	< 0.50	0.34 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.26 J	0.27 J	0.36 J	0.28 J	< 0.50 F-	< 0.50 F-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0
Bromodichloromethane			6	50000		< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0
2-Butanone (MEK)			50000	50000		< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10 K-	< 10
Carbon disulfide			NS	NS		< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10
Carbon tetrachloride			2	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0
Chlorobenzene			200	1000		< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0
Chloroethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0
Chloroform			50	20000		< 1.0	NT	< 1.0	0.32 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.23 J	0.24 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0
Chloromethane			NS	NS		< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0
1,4-Dichlorobenzene			60	8000		< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0
1,1-Dichloroethane			2000	20000		24.0	6.4	35.6	114	40.9 C+	31.5	31.2	43.7	44.6	70.9	70.7	109	89.6	99.3	107	137	142	83.8	88.3	85.5	38.1	38.8	39.5	71.5	69.0	48.1	24.2
1,2-Dichloroethane			5	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0
1,1-Dichloroethylene			80	30000		10.8	6.7	19.7	82.4	36.6 C+	24.5	24.5	39.1	39.3	61.7	61.7	89.2	73.0	91.4	97.7	123	130	74.9	78.6	89.1	57.9	53.0	47.6	86.4	76.2	57.3	30.2
cis-1,2-Dichloroethylene			20	50000		0.54 J	0.98 J	4.2	18.7	55.3 C+	81.5	80.9	214	212	225	224	296	247	311	380	390	373	165	196	214	143	140	169	178	185	150	145
trans-1,2-Dichloroethylene			90	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.9 G	2.5 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.9	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	2.9
1,2-Dichloropropane			3	50000		< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0
1,4-Dioxane			5000	50000		< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25	< 25	< 25	< 50	< 50
Ethylbenzene			20000	5000		< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0
2-Hexanone			NS	NS		< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10
4-Isopropyltoluene			NS	NS		< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10
Methyl tert-butyl ether			50000	50000		13.8	NT	20.3	87.0	20.5 C+	14.9	13.5	32.4	32.2	33.3	32.9	29.9	23.3	41.4	46.0	77.5	81.4	15.9	20.3	50.3	9.2	9.1	22.3	27.1	26.2	28.8	19.0
Methylene chloride			2000	50000		< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0
Naphthalene			700	20000		< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10
Tert-amyl methyl ether			NS	NS		< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0
1,1,1,2-Tetrachloroethane			10	50000		< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10
Tetrachloroethylene (PCE)			20	30000		198	144	159	359	202 C+	165	164	226	228	287	290	290 G	384	359	360	393	405	481	477	561	415	409	363	569 R	604	546	339
Tetrahydrofuran			NS	NS		< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10 F+	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 10	< 10	< 10	< 20 F- K-	< 20
Toluene			50000	40000		< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0
1,1,1-Trichloroethane (TCA)			4000	20000		0.96 J	0.68 J	1.4	5.8	1.9 C+	1.3	1.2	5.6	5.7	3.3	3.2	3.9	3.1	3.8	4.0	4.2 J+	4.4 J+	3.4	3.4	4.3	7.5	< 2.0	3.3	5.3	4.8	4.1	4.3
1,1,2-Trichloroethane			900	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0
Trichloroethylene (TCE)			5	5000		36.1	26.7	61.3	142	72.8 C+	46.1	44.3	54.9	55.9	88.2	87.9	140	114	137	139	194	198.0	173	179	181	110	108	95.0	171	157	138	87.0
Vinyl chloride			2	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.42 J	0.43 J	< 1.0	< 1.0	1.2	1.3	1.0	1.5	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0
m,p-Xylene			3000	5000		< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0
o-Xylene			3000	5000		< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0
Total Xylene			3000	5000		< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A
Sample Name:					MW900 (FD)	MW112A	MW112A	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW112A	MW112A	MW901 (FD)	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A
Well Screen Interval (ft bgs):					4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19
Sample Date:					4/24/13	11/18/13	6/11/14	11/18/14	4/17/15	4/17/15	4/28/16	11/21/16	4/18/17	4/18/2017	11/10/2017	4/4/2018	11/15/2018	4/15/2019	11/22/2019	4/16/2020	11/18/2020	4/13/2021	11/30/2021	4/14/2022	11/29/2022	5/11/2023	11/7/2023	4/2/2024	11/14/2024
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW 2 Standard**	**Method 1 GW 3 Standard**																								
Volatile Organic Compounds (VOCs)	8260	µg/l																										
Acetone			50000	50000	< 20	< 10 K-	< 10 K-	< 10	< 10	< 10	< 10	< 10	<10	<10	< 20	<25	<25	<25	<10	<25	<25	<25	<25	<25	<25	<10	< 25	<12	< 20
Benzene			1000	10000	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.43 J	0.23 J	0.23 J	< 1.0	<1.3	<1.3	<1.3	<0.50	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<1	< 2.5	<1.2	< 2.0
Bromodichloromethane			6	50000	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0
2-Butanone (MEK)			50000	50000	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	<10	<10	< 20	<25	<25	<25	<10	<25	<25	<25	<25	<25	<25	<5	< 25	<12	< 20
Carbon disulfide			NS	NS	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	<2	< 10	<5.0	< 8.0
Carbon tetrachloride			2	5000	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<1	< 5.0	<2.5	< 4.0
Chlorobenzene			200	1000	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0
Chloroethane			NS	NS	< 4.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<10	<10	<10	<10	<10	<10	<4	< 10	<5.0	< 8.0
Chloroform			50	20000	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0
Chloromethane			NS	NS	< 4.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<10	<10	<10	<10	<10	<10	<4	< 10	<5.0	< 8.0
1,4-Dichlorobenzene			60	8000	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0
1,1-Dichloroethane			2000	20000	37.0	73.5	18.3	64.1 G K-	23.2	25.2	14.1	77	34.1	30.1	88.1	25.3	25.3	38.5	36.9	51	48	40	35	24	35	50	39	28	30
1,2-Dichloroethane			5	20000	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0
1,1-Dichloroethylene			80	30000	30.0	86.5	38.5	109 K+	39	42.9	21.5	132	47.7	43.0	92.5	33.0	33.0	57.3	63.1	79	98	58	63	45	67	27	53	46	52
cis-1,2-Dichloroethylene			20	50000	112	209	150	321	71.1	84.1	108	230	78.2	71.8	155	98.5	98.5	60.6	131.0	72	130	62	120	85	68	100	64	100	93
trans-1,2-Dichloroethylene			90	50000	< 1.0	< 1.0	< 1.0	< 1.0 K+	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0
1,2-Dichloropropane			3	50000	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0
1,4-Dioxane			5000	50000	< 50	< 25	< 25	< 25	< 25	< 25	< 25	< 50	<130	<130	< 250	<310	<310	<310	<130	<1200	<1200	<1200	<1200	<1200	<1200	<500	< 1200	<620	< 1000
Ethylbenzene			20000	5000	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0
2-Hexanone			NS	NS	< 10	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	<5.0	<5.0	< 10	<13	<13	<13	<5.0	<25	<25	<25	<25	<25	<25	<10	< 25	<12	< 20
4-Isopropyltoluene			NS	NS	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	<4	< 10	<5.0	< 8.0
Methyl tert-butyl ether			50000	50000	14.1	64.6	4.6	47.3 K+	11.9	13.9	3.9	53.9	11.6	11.4	56	19.1	19.1	25.9	21.7	27	30	19	12	5	13	10	15	6	10
Methylene chloride			2000	50000	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	<4	< 10	<5.0	< 8.0
Naphthalene			700	20000	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	< 10	<13	<13	<13	<5.0	<10	<10	<10	<10	<10	<10	<4	< 10	<5.0	< 8.0
Tert-amyl methyl ether			NS	NS	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	<4	< 10	<5.0	< 8.0
1,1,1,2-Tetrachloroethane			10	50000	< 10	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0
Tetrachloroethylene (PCE)			20	30000	581	371	266	398	303	300	258	508	435	404	908	317	317	555	463	750	760	630	460	370	560	300	460	370	420
Tetrahydrofuran			NS	NS	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	< 20	<25	<25	<25	<10	<10	<10	<10	<10	<10	<10	<4	< 10	<5.0	< 8.0
Toluene			50000	40000	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0
1,1,1-Trichloroethane (TCA)			4000	20000	6.5	8.0	1.5	3.6	1.3	1.4	1.7	6.5	4.1	3.6	11.4	3.6	3.6	5.4	5.0	7.5	7.8	7.0	5.1	3.0	<5	4.1	5.4	3.5	< 4.0
1,1,2-Trichloroethane			900	50000	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0
Trichloroethylene (TCE)			5	5000	140	146	82.0	117	71	73	61.3	220.0	118.0	107	247	92.3	92.3	136	136	180	190	140	130	95	140	170	110	84	84
Vinyl chloride			2	50000	4.4	0.90 J	< 1.0	0.77 J G K-	< 1.0	< 1.0	< 1.0	1.3	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	1.4	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	11	12	28
m,p-Xylene			3000	5000	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<10	<10	<10	<10	<10	<10	<4	< 10	<5.0	< 8.0
o-Xylene			3000	5000	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0
Total Xylene			3000	5000	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2	< 5.0	<2.5	< 4.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW112A	MW112A	MW112A	MW-115/115R	MW-115/115R	MW-115/115R	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116
					Sample Name:	MW112A	MW112A	MW112A	MW-115/115R	MW-115/115R	MW-115/115R	MW116	MW116	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW116	MW116	MW116	MW116	MW116	MW901 (FD)	MW116	MW901 (FD)
					Well Screen Interval (ft bgs):	4 to 19	4 to 19	4 to 19	10 to 25	10 to 25	10 to 25	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15
					Sample Date:	4/25/2025	11/13/2025	2/3/2026	1/20/25	4/22/25	11/13/25	3/23/07	4/16/07	7/18/07	7/18/07	10/12/07	10/12/07	1/11/08	1/11/08	4/15/08	4/15/08	7/16/08	10/21/08	1/14/09	4/15/09	7/14/09	10/14/09	4/13/10	4/13/10	4/21/11	4/21/11
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																											
Acetone			50000	50000		<10	<10	<20	<5.0	<5.0	<5.0	< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10 F+	< 10	< 25	< 5.0	< 5.0	< 5.0
Benzene			1000	10000		<1.0	<1.0	<2.0	<0.50	<0.50	<0.50	0.24 J	< 0.50	NT	NT	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 1.0	< 0.50	< 1.0	< 1.0	< 2.5	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000		<2.0	<2.0	<4.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	NT	1.1 J	0.99 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000		<10	<10	<20	<5.0	<5.0	<5.0	< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS		<4.0	<4.0	<8.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	2.9 J	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5000		<2.0	<2.0	<4.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1000		<2.0	<2.0	<4.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS		<4.0	<4.0	<8.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	2.4	2.3	2.4 J	2.4 J	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0
Chloroform			50	20000		<2.0	<2.0	<4.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS		<4.0	<4.0	<8.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8000		<2.0	<2.0	<4.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0 J+	< 2.0 J+	< 2.0	< 5.0	< 1.0	1.6	1.0
1,1-Dichloroethane			2000	20000		19	27	25	<1.0	<1.0	<1.0	135	4.4	97.3	96.9	80.1	79.3	18.9	15.6	66.8	64.5	114	109	72.5	101	69.7	92.2	63.9	68.9	27.8	23.4
1,2-Dichloroethane			5	20000		<2.0	<2.0	<4.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	0.23 J	0.20 J	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30000		33	47	56	<1.0	<1.0	<1.0	107	2.7	33.8	34.0	24.8	22.4	14.7	11.8	46.3	45.7	78.4	79.8	56.5	70.6	35.2	68.8	49.1	51.9	22.4	14.1
cis-1,2-Dichloroethylene			20	50000		99	130	150	<1.0	<1.0	<1.0	103	21.7	415	431	346	341	49.5	42.9	105	102	286	319	146	84.1	92.7	133	80.7	92.1	84.6	68.3
trans-1,2-Dichloroethylene			90	50000		<2.0	<2.0	<4.0	<1.0	<1.0	<1.0	1.8	< 1.0	4.3	4.4	2.5	2.4	0.88 J	1.3	< 1.0	< 1.0	< 2.0	1.3	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	1.6	1.6	1.8
1,2-Dichloropropane			3	50000		<2.0	<2.0	<4.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5000	50000		<500 K-	<50	<1000	<250	<250	<250 K-	< 25	< 25	NT	NT	< 50	< 50	< 25	< 25	< 25	< 25	< 50	< 25	< 50	< 25	< 50 F-	< 50	< 130	< 25	< 25	< 25
Ethylbenzene			20000	5000		<2.0	<2.0	<4.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS		<10	<10	<20	<5.0	<5.0	<5.0	< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS		<4.0	<4.0	<8.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50000	50000		<4.0	8.2	<8.0	<2.0	<2.0	<2.0	12.3	0.40 J	NT	NT	12.5	12.7	2.1 J+	1.3 J+	7.1	6.9	18.2	18.0	9.0	11.7	7.2	8.4	5.4	5.9	4.4	4.4
Methylene chloride			2000	50000		<4.0	<4.0	<8.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0
Naphthalene			700	20000		<4.0	<4.0	<8.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	0.68 J	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS		<4.0	<4.0	<8.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50000		<2.0	<2.0	<4.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30000		220	400	420	<1.0	<1.0	<1.0	1180	32.2	167	168	116	110	267	257 J+	603	607	864	839	795	796 G	1020	1010	860	933	323	166
Tetrahydrofuran			NS	NS		<4.0	<4.0	<8.0	<2.0	<2.0	<2.0	30.6	13.8	NT	NT	< 20	< 20	< 10	< 10	< 10	< 10	< 20	< 10	< 20	< 10	< 20 F+	< 20	< 50	< 10	< 10	< 10
Toluene			50000	40000		<2.0	<2.0	<4.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4000	20000		2.3	4.2	<4.0	<1.0	<1.0	<1.0	21.6	0.67 J	10.6	10.7	9.4	9.2	3.3	2.5	10.7	10.7	16.0	15.6	12.8	16.6	8.5	14.3 J+	8.2	10.2	4.2	3.8
1,1,2-Trichloroethane			900	50000		<2.0	<2.0	<4.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5000		56	98	86	<1.0	<1.0	<1.0	358	19.4	72.7	73.2	136	129	66.3	53.6	175	174	257	269	229	341	196	267	195	212	88.7	57.7
Vinyl chloride			2	50000		10	19	5	<1.0	<1.0	<1.0	14.1	3.2	185	182	84.9	76.4	3.1	2.3	2.6	2.7	7.2	21.3	13.9	6.3	6.1	6.9	5.7	6.1	13.5	9.0
m,p-Xylene			3000	5000		<4.0	<4.0	<8.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	1.2	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0
o-Xylene			3000	5000		<2.0	<2.0	<4.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0
Total Xylene			3000	5000		<2.0	<2.0	<4.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	1.2	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW116
					Sample Name:	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900	MW116	MW900	MW116	MW900	MW116	MW900	MW116
					Well Screen Interval (ft bgs):	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15
					Sample Date:	4/17/12	4/17/12	4/24/13	4/24/13	5/1/14	5/1/14	4/2/15	4/2/15	4/29/16	4/29/16	4/17/17	4/17/17	4/4/18	4/4/18	4/16/19	4/16/19	4/17/20	4/17/20	4/14/21	4/14/21	4/14/22	4/14/22	4/18/23	4/18/23	4/3/24	4/3/24	4/24/25
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																													
Acetone			50000	50000		< 5.0	< 5.0	< 20	< 10	< 20	< 20	< 20	< 20	< 20	< 10	<10	<10	<10	<10	<10	<10	<25	<25	<12	<12	<5.0	<5.0	<5.0	<5.0	<12	<10	<5.0
Benzene			1000	10000		< 0.50	< 0.50	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.5	<2.5	<1.2	<1.2	<0.50	<0.50	<0.50	<0.50	<1.2	<1.0	<0.50
Bromodichloromethane			6	50000		< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0
2-Butanone (MEK)			50000	50000		< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<10	<10	<10	<10	<10	<10	<25	<25	<25	<25	<5.0	<5.0	<5.0	<5.0	<12	<10	<5.0
Carbon disulfide			NS	NS		< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0
Carbon tetrachloride			2	5000		< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0
Chlorobenzene			200	1000		< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0
Chloroethane			NS	NS		< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0
Chloroform			50	20000		< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0
Chloromethane			NS	NS		< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0
1,4-Dichlorobenzene			60	8000		0.82 J	0.77 J	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0
1,1-Dichloroethane			2000	20000		52.8	51.8	31.5	25.8	38.5	41.9	52.0	49.9	38.3	45.0	49.4	49.8	44.1	46.2	22.7	53.9	70	75	39	40	30	29	28	27	21	22	26
1,2-Dichloroethane			5	20000		< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0
1,1-Dichloroethylene			80	30000		43.3	42.3	26.7	39.4	46.1	50.3	52.4	50.8	27.7	36.4	35.1	34.4	19.7	20.9	9.4	31.3	30	39	27	27	20	20	23	23	25	26	22
cis-1,2-Dichloroethylene			20	50000		115	112	94.8	144	107	116	114	111	50.6	59	67.5	67.2	42.6	44.2	27.3	112.0	120	130	110	110	140	130	150	150	56	57	110
trans-1,2-Dichloroethylene			90	50000		< 1.0	< 1.0	< 2.0	1.1	< 2.0	< 2.0	1.1 J	<2.0	< 2.0	< 1.0	0.42 J	0.45 J	1.1	1.2	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.5	<2.0	<1.0
1,2-Dichloropropane			3	50000		< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.5	<2.0	<1.0
1,4-Dioxane			5000	50000		< 25 K-	< 25 K-	< 100	< 50	< 50	< 50	< 50	< 50	< 50	< 50	<130	<130	<130	<130	<130	<130	<1200	<1200	<620	<620	<250	<250	<250	<250	<620	<500	<250
Ethylbenzene			20000	5000		< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0
2-Hexanone			NS	NS		< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25	<12	<12	<5.0	<5.0	<5.0	<5.0	<12	<10	<5.0
4-Isopropyltoluene			NS	NS		< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0
Methyl tert-butyl ether			50000	50000		3.4	3.3	14.1	10.6 K-	4.4	4.8	5.0	4.9	< 2.0	0.79 J	1.6	1.6	1.1	1.2	<1.0	3.5	<10	<10	<5.0	<5.0	2.3	2.2	2.3	2.2	<5.0	<4.0	<2.0
Methylene chloride			2000	50000		< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0
Naphthalene			700	20000		< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0
Tert-amyl methyl ether			NS	NS		< 2.0	< 2.0	< 4.0	< 2.0 K-	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0
1,1,1,2-Tetrachloroethane			10	50000		< 5.0	< 5.0	< 10	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0
Tetrachloroethylene (PCE)			20	30000		774	778	527	396	618	670	726	695	450	436	482	456	233	253	129	404	520	550	340	340	120	120	130	130	310	340	160
Tetrahydrofuran			NS	NS		< 10	< 10	< 20	< 10	13.3 J	15.7 J	<20	<20	<20	< 10	<10	<10	<10	<10	<10	<10	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0
Toluene			50000	40000		< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0
1,1,1-Trichloroethane (TCA)			4000	20000		8.0	8.3	6.0	3.0	6.7	7.3	8.0	7.6	3.8	4.4	3.8	3.7	1.8	2.0	1.0	2.6	<5.0	<5.0	2.6	2.6	3.2	3.2	2.8	2.8	2.6	2.7	2.6
1,1,2-Trichloroethane			900	50000		< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0
Trichloroethylene (TCE)			5	5000		181	182	126	95.4	164	182	188	183	113	139	131	129	83.3	86.3	37	157	200	220	120	120	35	34	53	54	86	90	68
Vinyl chloride			2	50000		8.8 K+	8.8 K+	3.8	< 1.0	1.8 J	2.2	3.8	3.8	< 2.0	< 1.0	1.6	1.4	<1.0	<1.0	<1.0	20.2	22	29	50	49	130	120	87	86	5	5	61
m,p-Xylene			3000	5000		< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<4.0	<2.0
o-Xylene			3000	5000		< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0
Total Xylene			3000	5000		< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<2.0	<2.0	<2.0	<2.0	<2.5	<2.0	<1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW116	MW116	MW116	MW116	MW116	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D
					Sample Name:	MW900	MW116	MW900	MW116	MW900	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D
					Well Screen Interval (ft bgs):	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70
					Sample Date:	4/24/25	11/11/25	11/11/25	2/4/26	2/4/26	7/19/07	10/11/07	1/15/08	4/16/08	7/16/08	10/21/08	1/13/09	4/14/09	7/15/09	10/14/09	4/13/10	4/20/11	4/16/12	4/24/13	5/1/14	4/2/15	4/28/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/12/22	4/17/23
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																																
Acetone			50000	50000		<5.0	<10	<10	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	5.8	<5.0
Benzene			1000	10000		<0.5	<0.50	<0.5	<0.5	<0.5	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane			6	50000		<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			50000	50000		<5.0	<5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			NS	NS		<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	6.5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			2	5000		<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			200	1000		<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			NS	NS		<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Chloroform			50	20000		<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.0	0.43 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			NS	NS		<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			60	8000		<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			2000	20000		25	18	22	26	24	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			5	20000		<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
1,1-Dichloroethylene			80	30000		22	13	12	18	19	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			20	50000		110	57	60	51	57	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			90	50000		<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			3	50000		<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			5000	50000		<250	<50	<250	<50	<250	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			20000	5000		<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			NS	NS		<5	<5.0	<5	<5.0	<5	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			NS	NS		<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			50000	50000		<2.0	1.6	1.8	<2.0	<2.0	NT	1.6	2.3	1.5	< 1.0	1.5	0.96 J	0.86 J	1.3	1.5	1.2	< 1.0	< 1.0	6.8	< 1.0	< 1.0	0.66 J	1.3	<1.0	1.4	2	2	<2.0	<2.0
Methylene chloride			2000	50000		<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			700	20000		<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	4.9 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			NS	NS		<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			10	50000		<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			20	30000		150	130	140	180	190	0.54 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			NS	NS		<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			50000	40000		<1.0	<1.0	<1.0	<1.0	<1.0	NT	0.98 J	< 1.0	0.34 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			4000	20000		2.6	1.7	1.8	2.0	1.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			900	50000		<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			5	5000		66	40	39	48	46	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			2	50000		61	16	20	28	19	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			3000	5000		<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			3000	5000		<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			3000	5000		<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW117D	MW117D	MW117D	MW117D	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S
Sample Name:					MW117D	MW117D	MW117D	MW117D	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S
Well Screen Interval (ft bgs):					60 to 70	60 to 70	60 to 70	60 to 70	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:					4/2/24	4/22/25	11/10/25	2/2/26	7/18/07	10/15/07	1/11/08	4/16/08	7/16/08	10/21/08	1/13/09	4/14/09	7/15/09	10/14/09	4/13/10	4/21/11	4/16/12	4/24/13	5/1/14	4/2/15	4/27/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/12/22	4/17/23	4/2/24
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW 2 Standard**	**Method 1 GW 3 Standard**																												
Volatile Organic Compounds (VOCs)	8260	µg/l																														
Acetone			50000	50000	<5.0	<5.0	<10.0	<10.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<0.10	<5.0	<5.0	<5.0	<5.0
Benzene			1000	10000	<0.5	<0.50	<0.50	<0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane			6	50000	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			50000	50000	<5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			NS	NS	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			2	5000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			200	1000	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			NS	NS	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Chloroform			50	20000	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			NS	NS	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			60	8000	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			2000	20000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			5	20000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			80	30000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			20	50000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			90	50000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			3	50000	<1.0	<1.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			5000	50000	<250	<250	<50	<50	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	<250
Ethylbenzene			20000	5000	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			NS	NS	<5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			NS	NS	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			50000	50000	<2.0	<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			2000	50000	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			700	20000	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			NS	NS	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			10	50000	<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			20	30000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			NS	NS	<2.0	<2.0	<2.0	<2.0	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0
Toluene			50000	40000	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			4000	20000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			900	50000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			5	5000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			2	50000	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			3000	5000	<2.0	<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			3000	5000	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			3000	5000	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW117S	MW117S	MW117S	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T
					Sample Name:	MW117S	MW117S	MW117S	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T
					Well Screen Interval (ft bgs):	5 to 20	5 to 20	5 to 20	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45
					Sample Date:	4/22/25	11/10/25	2/2/26	7/19/07	10/11/07	1/15/08	4/16/08	7/16/08	10/21/08	1/13/09	4/14/09	7/15/09	10/16/09	4/13/10	4/21/11	4/16/12	4/23/13	5/1/14	4/2/15	4/27/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/12/22	4/17/23	4/2/24	4/22/25
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																														
Acetone			50000	50000		<5.0	<10	<10	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene			1000	10000		<0.50	<0.50	<0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.50
Bromodichloromethane			6	50000		<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			50000	50000		<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			NS	NS		<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			2	5000		<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			200	1000		<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			NS	NS		<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0
Chloroform			50	20000		<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			NS	NS		<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			60	8000		<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			2000	20000		<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			5	20000		<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			80	30000		<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			20	50000		<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			90	50000		<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			3	50000		<1.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			5000	50000		<250	<250	<250	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	<250
Ethylbenzene			20000	5000		<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			NS	NS		<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			NS	NS		<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			50000	50000		<2.0	<2.0	<2.0	NT	3.4	9.8	4.8	1.7	2.8	1.9	4.1	1.5	7.0	1.6	1.4	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			2000	50000		<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			700	20000		<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			NS	NS		<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			10	50000		<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			20	30000		<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0
Tetrahydrofuran			NS	NS		<2.0	<2.0	<2.0	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0
Toluene			50000	40000		<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			4000	20000		<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			900	50000		<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			5	5000		<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			2	50000		<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			3000	5000		<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			3000	5000		<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			3000	5000		<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW117T	MW117T	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D
					Sample Name:	MW117T	MW117T	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW901 (FD	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D
					Well Screen Interval (ft bgs):	35 to 45	35 to 45	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80
					Sample Date:	11/10/25	2/2/26	7/20/07	8/30/07	10/11/07	1/16/08	4/16/08	7/16/08	10/21/08	1/14/09	4/14/09	7/15/09	10/14/09	10/14/09	4/12/10	4/20/11	4/16/12	11/12/12	4/24/13	11/18/13	5/1/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16	4/17/2017	11/8/2017	4/3/2018
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																																
Acetone			50000	50000		<10	<10	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 K-	< 10	< 10 K-	< 10	< 10	< 10	< 10	< 10	<10	< 10	< 10
Benzene			1000	10000		<0.50	<0.50	NT	NT	< 0.50	0.24 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000		<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000		<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	<10	< 10	< 10
Carbon disulfide			NS	NS		<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.6 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 2.0	< 2.0
Carbon tetrachloride			2	5000		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0
Chlorobenzene			200	1000		<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0
Chloroethane			NS	NS		<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	4.8	3.1	3.1	1.1	3.4	3.7
Chloroform			50	20000		<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0
Chloromethane			NS	NS		<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 1.0	< 1.0
1,4-Dichlorobenzene			60	8000		<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0
1,1-Dichloroethane			2000	20000		<1.0	<1.0	20.3	21.4	31.2	31.7	33.3	34.3	22.8	26.0	22.8	28.7	41.2	39.5	40.0	43.5	36.9	41.4	38.5	39.1	40.6	47.9	46.6	39.3	43.9	37.7	34.8	27.4	21.9
1,2-Dichloroethane			5	20000		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30000		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.55 J	< 1.0	< 1.0	< 1.0	0.79 J K+	0.90 J	1.6	1.8	0.85 J	0.78 J	< 1.0	< 1.0
cis-1,2-Dichloroethylene			20	50000		<1.0	<1.0	0.55 J	< 1.0	< 1.0	< 1.0	< 1.0	0.96 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.3	1.2	1.6	2.7	5.1	6.5	6.8	6.9	5.6	27.8	8.6	7.9	5	4.3
trans-1,2-Dichloroethylene			90	50000		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.74 J	0.68 J	< 1.0 K+	0.62 J	2.2	2.9	0.81 J	0.55 J	< 1.0	< 1.0
1,2-Dichloropropane			3	50000		<1.0	<1.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 1.0	< 1.0
1,4-Dioxane			5000	50000		<50	<50	NT	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25	< 25	< 25	< 25	< 25	< 50	<130	< 130	< 130
Ethylbenzene			20000	5000		<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0
2-Hexanone			NS	NS		<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 10	<5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS		<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	0.93 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 2.0	< 2.0
Methyl tert-butyl ether			50000	50000		<2.0	<2.0	NT	NT	< 1.0	0.40 J	< 1.0	0.40 J	< 1.0	< 1.0	0.38 J	0.39 J	0.55 J	0.51 J	< 1.0	0.83 J	< 1.0	0.63 J	< 1.0	0.46 J	< 1.0	1.9 K+	0.69 J	0.89 J	< 1.0	1.3	0.81 J	< 1.0	1.1
Methylene chloride			2000	50000		<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0
Naphthalene			700	20000		<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.1 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS		<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50000		<1.0	<1.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0
Tetrachloroethylene (PCE)			20	30000		<1.0	<1.0	7.0	8.4	8.2	6.1	5.7	7.1	2.1	1.2	< 1.0	2.3	0.93 J	1.1	1.5	4.6	8.4	4.3	5.8	1.3	< 1.0	2.2	5.1	39.7	49.8	6.5	5.8	2.7	2.7
Tetrahydrofuran			NS	NS		<2.0	<2.0	NT	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F- K-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	< 10	< 10
Toluene			50000	40000		<1.0	<1.0	NT	NT	< 1.0	0.62 J	< 1.0	0.27 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4000	20000		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			900	50000		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5000		<1.0	<1.0	1.2	3.9	1.8	0.94 J	1.0	1.9	< 1.0	1.9	1.5	3.0	6.1	6.3	10.0	11.9	7.4	11.5	7.7	7.3	4.3	6.9	4.6	17.6	14.4	3.3	2.6	1.7	1.5
Vinyl chloride			2	50000		<1.0	<1.0	< 1.0	2.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 G K-	< 1.0	1.9	20.2	3.1	0.93 J	2.4	1.9
m,p-Xylene			3000	5000		<2.0	<2.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0
o-Xylene			3000	5000		<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0
Total Xylene			3000	5000		<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S
Sample Name:					MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S
Well Screen Interval (ft bgs):					70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	71 to 80	71 to 80	71 to 80	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14
Sample Date:					11/15/2018	4/15/2019	11/22/2019	4/16/2020	11/18/2020	4/13/2021	11/30/2021	4/12/2022	11/29/2022	4/17/2023	11/7/2023	4/2/2024	11/14/2024	4/22/2025	11/10/2025	2/2/2026	7/20/07	8/30/07	10/11/07	1/11/08	4/16/08	7/15/08	10/21/08	1/14/09	4/15/09	7/15/09
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW 2 Standard**	**Method 1 GW 3 Standard**																										
Volatile Organic Compounds (VOCs)	8260	µg/l																												
Acetone			50000	50000	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<10	<10	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Benzene			1000	10000	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J+	< 0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
2-Butanone (MEK)			50000	50000	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Carbon disulfide			NS	NS	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 J+	< 5.0
Carbon tetrachloride			2	5000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
Chlorobenzene			200	1000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS	1.1	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	9	5.6	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
Chloroform			50	20000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
Chloromethane			NS	NS	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
1,4-Dichlorobenzene			60	8000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,1-Dichloroethane			2000	20000	20.0	18.6	33.9	44	27	25	22	30	29	28	26	22	<1.0	12	16	24	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,2-Dichloroethane			5	20000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,1-Dichloroethylene			80	30000	< 1.0	<1.0	2.6	2.4	1.3	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
cis-1,2-Dichloroethylene			20	50000	3.7	3.2	57.3	53	10	5.8	4.7	4.1	3.9	3.4	3.1	2.5	1.3	2.3	2.8	2.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
trans-1,2-Dichloroethylene			90	50000	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,2-Dichloropropane			3	50000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
1,4-Dioxane			5000	50000	< 130	< 130	< 130	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<50	<50	NT	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25
Ethylbenzene			20000	5000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	2.6	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 J+	< 5.0
Methyl tert-butyl ether			50000	50000	1.3	1.3	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	1.1	<2.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
Methylene chloride			2000	50000	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
Naphthalene			700	20000	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
1,1,1,2-Tetrachloroethane			10	50000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30000	1.8	1.6	40.9	38	27	2.2	1.1	<1.0	1.1	<1	1.5	<1.0	<1.0	<1.0	<1.0	2.6	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			NS	NS	< 10	< 10	< 10	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10
Toluene			50000	40000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,1,1-Trichloroethane (TCA)			4000	20000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,1,2-Trichloroethane			900	50000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
Trichloroethylene (TCE)			5	5000	1.5	1.1	11.4	11	7.9	2.7	1.7	<1.0	1.1	1.1	1.3	<1.0	<1.0	<1.0	<1.0	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
Vinyl chloride			2	50000	< 1.0	1.1	11.8	19	3.8	3.3	1.9	<1.0	2.6	2.6	1.3	2.2	<1.0	1.5	<2.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
m,p-Xylene			3000	5000	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3000	5000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3000	5000	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T
					Sample Name:	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T
					Well Screen Interval (ft bgs):	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5
					Sample Date:	10/14/09	4/12/10	4/20/11	4/24/13	5/1/14	4/2/15	4/28/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/12/22	4/17/23	4/2/24	4/22/25	11/10/25	2/2/26	7/20/07	8/30/07	10/11/07	1/15/08	4/16/08	7/15/08	10/21/08	1/14/09	4/14/09
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																													
Acetone			50000	50000		< 5.0	< 5.0 J+	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<10	40	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene			1000	10000		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2000	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	35.4	34.4	44.2	42.3	42.0	41.9	37.0	33.4	33.6
1,2-Dichloroethane			5	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			20	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.45 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			90	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5000	50000		< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	<250	<250	<50	<50	NT	NT	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25 J+
Ethylbenzene			20000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS		< 5.0	< 5.0	21.9	< 5.0	2.9 J	6.0	< 5.0	10.3	<2.0	<2.0	<2.0	3.1	<2.0	<2.0	2.8	11	2.3	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50000	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	2.4	3.1	2.2	2.5	2.2	2.3	2.0
Methylene chloride			2000	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.29 J	< 1.0	0.38 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.0	3.8	2.2	2.9	2.7	2.5	2.4	2.1	2.0
Tetrahydrofuran			NS	NS		< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10 J+
Toluene			50000	40000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4000	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			900	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	0.31 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			2	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
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4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
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Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
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Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW119S	MW119S	MW119S
					Sample Name:	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW119S	MW119S	MW119S
					Well Screen Interval (ft bgs):	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	5 to 20	5 to 20	5 to 20
					Sample Date:	7/14/09	10/15/09	4/12/10	4/20/11	4/17/12	4/24/13	5/1/14	4/3/15	4/28/16	4/17/17	4/3/18	4/16/19	4/17/20	4/13/21	4/12/22	4/17/23	4/2/24	4/22/25	11/10/25	2/2/26	8/22/07	10/12/07	1/15/08
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																									
Acetone			50000	50000		< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0 J+	< 5.0 J+	< 5.0
Benzene			1000	10000		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	< 0.50 J+	< 0.50	< 0.50
Bromodichloromethane			6	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0 J+	< 5.0 J+	< 5.0
Carbon disulfide			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0 J+	< 5.0	< 5.0
Carbon tetrachloride			2	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
Chlorobenzene			200	1000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
Chloroethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0 J+	< 2.0	< 2.0
Chloroform			50	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
Chloromethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0 J+	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
1,1-Dichloroethane			2000	20000		40.0	53.3 J+	37.8	35.9	28.8	26.9	28.4	31.3	31.3	26.7	22.4	5.8	23	16	1.5	15	9.6	7.3	7.4	9.3	< 1.0 J+	< 1.0	< 1.0
1,2-Dichloroethane			5	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
1,1-Dichloroethylene			80	30000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.36 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
cis-1,2-Dichloroethylene			20	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.45 J	< 1.0	0.55 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
trans-1,2-Dichloroethylene			90	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
1,2-Dichloropropane			3	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0 J+	< 2.0	< 2.0
1,4-Dioxane			5000	50000		< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	<250	<250	<50	<50	< 25 J+	< 25	< 25
Ethylbenzene			20000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
2-Hexanone			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0 J+	< 5.0 J+	< 5.0
4-Isopropyltoluene			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.5	1	<2.0	< 5.0 J+	< 5.0	< 5.0
Methyl tert-butyl ether			50000	50000		1.9	7.5	1.2	2.4	1.8	7.1	0.94 J	1.5	1.1	1.9	1.6	<1.0	2.1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	5.2 J+	2.0	2.1
Methylene chloride			2000	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0 J+	< 2.0	< 2.0
Naphthalene			700	20000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0 J+	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS		< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0 J+	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0 J+	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30000		1.7	2.8	1.6	2.1	2.1	1.5	1.0	1.3	2.0	0.90 J	<1.0	<1.0	1.4	1.1	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
Tetrahydrofuran			NS	NS		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 10 J+	< 10	< 10
Toluene			50000	40000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4000	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
1,1,2-Trichloroethane			900	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5000		0.50 J	0.80 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.26 J	0.62 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
Vinyl chloride			2	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K+	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
m,p-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 1.0 J+	< 1.0	< 1.0
o-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0
Total Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119T	MW119T	MW119T
					Sample Name:	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119T	MW119T	MW119T
					Well Screen Interval (ft bgs):	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	42 to 47	42 to 47	42 to 47
					Sample Date:	4/16/08	7/15/08	10/22/08	1/13/09	4/13/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/2/15	4/28/16	4/18/17	4/3/18	4/16/19	4/17/20	4/14/21	4/13/22	4/17/23	4/2/24	4/2/24	4/22/25	11/11/25	2/4/26	8/22/07	10/12/07	1/16/08
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																													
Acetone			50000	50000		< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.4 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	< 5.0	< 5.0 J+	< 5.0
Benzene			1000	10000		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0
Carbon disulfide			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS		< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	9.2 J+	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2000	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10.4 J+	11.0	10.9
1,2-Dichloroethane			5	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.0 J+	6.4	6.0
cis-1,2-Dichloroethylene			20	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.54 J J+	1.2	1.1
trans-1,2-Dichloroethylene			90	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5000	50000		< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	<250	<250	<250	<50	<50	< 25	< 25	< 25
Ethylbenzene			20000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0
4-Isopropyltoluene			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50000	50000		0.83 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	4.1 J+	0.66 J	0.64 J
Methylene chloride			2000	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	94.3 J+	105	85.0
Tetrahydrofuran			NS	NS		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 10	< 10	< 10
Toluene			50000	40000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4000	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	0.69 J	0.52 J
1,1,2-Trichloroethane			900	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	25.9 J+	29.6	26.7
Vinyl chloride			2	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0
o-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW120D	MW120D	MW120D	MW120D
					Sample Name:	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW120D	MW120D	MW120D	MW1120D
					Well Screen Interval (ft bgs):	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	28 to 38	28 to 38	28 to 38	28 to 38
					Sample Date:	4/16/08	7/15/08	10/22/08	1/13/09	4/13/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/2/15	4/28/16	4/18/17	4/3/18	4/16/19	4/17/20	4/14/21	4/13/22	4/17/23	4/2/24	4/22/25	11/13/25	2/4/26	8/22/07	10/12/07	1/17/08	4/16/08
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																														
Acetone			50000	50000		< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0
Benzene			1000	10000		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0
Carbon disulfide			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS		< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	1.4 J	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	12.0 J+	< 2.0	< 2.0	< 2.0 J+
1,4-Dichlorobenzene			60	8000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2000	20000		10.4	11.0	5.3	9.0	9.1	7.7	10.8 J+	10.2	9.4	6.4	5.9	5.6	5.9	4.4	4.9	4.0	1.8	4.3	2.7	1.1	2.6	2.2	2.2	<1.0	2.6	23.0 J+	26.0	23.2	30.8
1,2-Dichloroethane			5	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30000		6.2	5.8	< 1.0	5.1	5.0	4.6	6.1 J+	5.4	7.0	4.4	4.2	4.1	4.5	3.4	3.7	2.4	<1.0	3.3	1.9	<1.0	2.6	<1.0	<1.0	<1.0	2.4	15.6 J+	18.9	14.3	17.8
cis-1,2-Dichloroethylene			20	50000		1.2	1.1	< 1.0	0.20 J	1.0	0.66 J	0.94 J J+	< 1.0	< 1.0	0.95 J	0.80 J	< 1.0	0.70 J	0.65 J	0.82 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.70 J J+	< 1.0	1.7	1.9
trans-1,2-Dichloroethylene			90	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5000	50000		< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	<250	<250	<50	<50	< 25	< 25	< 25 J+	< 25
Ethylbenzene			20000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50000	50000		0.50 J	< 1.0	< 1.0	0.47 J	0.37 J	0.34 J	< 1.0	< 1.0	< 1.0	< 1.0	9.1 K-	1.5	0.98 J	< 1.0	0.55 J	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	6.8 J+	3.9	3.2	4.2
Methylene chloride			2000	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	0.68 J
Tert-amyl methyl ether			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30000		86.3	81.2	17.5	78.8	72.2	85.8	72.5	85.4	74.6	75.1	68.5	56.4	54.5	55.7	50.6	33.0	2.6	52.0	32.0	3.1	36	5.2	3.3	1.7	28	93.5 J+	120	113	131
Tetrahydrofuran			NS	NS		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10
Toluene			50000	40000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4000	20000		2.6	< 1.0	< 1.0	0.46 J	< 1.0	0.54 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0	0.25 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10.3 J+	4.3	3.2	< 1.0
1,1,2-Trichloroethane			900	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5000		26.8	26.7	6.7	24.9	23.7	26.4	23.0	27.1	23.2	21.0	21.3	16.8	20.2	18.3	17.6	12.8	2.5	17.0	10.0	1.6	10.0	3.5	3	1.3	10	32.6 J+	40.1	34.7	43.4
Vinyl chloride			2	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	0.38 J	0.35 J	< 1.0
m,p-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120S	MW120S	MW120S	MW1120S
					Sample Name:	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120S	MW120S	MW120S	MW1120S
					Well Screen Interval (ft bgs):	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	5 to 20	5 to 20	5 to 20	5 to 20
					Sample Date:	7/15/08	10/22/08	1/13/09	4/14/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/3/15	4/28/16	4/18/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	4/18/23	4/3/24	4/3/24	4/22/25	11/11/25	2/4/26	8/22/07	10/12/07	1/15/08	4/16/08
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																															
Acetone			50000	50000		< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0
Benzene			1000	10000		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0
Carbon disulfide			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.56 J J+	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.9 J+	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	0.85 J	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	10.3 J+	< 2.0	< 2.0	< 2.0 J+
1,4-Dichlorobenzene			60	8000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2000	20000		29.5	21.8	21.4	20.9	18.4	31.1 J+	25.1	23.1	17.0	15.8	16.2	16.2	11.6	11.4	12.8	3.1	16.0	12.0	3.8	1.7	1.6	1.9	1.9	8.2	4.1	1.1 J+	4.3	< 1.0	< 1.0
1,2-Dichloroethane			5	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30000		22.0	18.4	16.7	16.9	14.1	24.7 J+	19.4	23.8	15.5	14.8	16.7	16.8	8.2	9.7	14.1	1.3	14	10	1.6	1.6	1.2	1.3	1.3	8.3	3.3	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			20	50000		1.9	1.6	0.70 J	1.6	1.5	1.8 J+	1.7	2.4	1.4	1.1	< 1.0	0.95 J	0.64 J	0.81 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			90	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5000	50000		< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	<250	<250	<250	<50	<250	< 25	< 25	< 25	< 25
Ethylbenzene			20000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50000	50000		3.8	6.6	2.8	2.4	2.0	7.5	2.2	2.2	1.4	7.1 K-	0.78 J	1.1	< 1.0	1.1	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			2000	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30000		103	118	84.2	114	99.3	95.0	95.9	75.0	78.5	72.0	66.4	52.9	40.4	35.2	49.9	7.7	59.0	36.0	6.5	5.2	4.7	5	5	31	11	< 1.0	< 1.0	0.97 J	< 1.0
Tetrahydrofuran			NS	NS		< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10
Toluene			50000	40000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4000	20000		3.9	6.4	2.8	3.7	2.5	3.3	3.5	4.3	2.0	2.6	1.7	2.1	1.1	0.45 J	1.1	<1.0	1.2	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			900	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5000		38.7	33.2	30.4	33.8	32.0	33.1	34.8	28.3	26.1	23.6	22.1	21.4	15.7	13.8	18.6	3.4	21.0	14.0	2.9	2.0	2.0	2.2	2.2	13.0	4.7	< 1.0	< 1.0	0.39 J	< 1.0
Vinyl chloride			2	50000		< 1.0	< 1.0	< 1.0	< 1.0	0.43 J	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1.0	0.89 J	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW121D	MW121D	MW121D	MW121D
Sample Name:					MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW121D	MW121D	MW121D	MW121D
Well Screen Interval (ft bgs):					5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1
Sample Date:					7/15/08	10/22/08	1/13/09	4/14/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/3/15	4/28/16	4/18/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	4/18/23	4/2/24	4/22/25	11/11/25	2/4/26	10/22/07	1/15/08	4/17/08	7/14/08
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW 2 Standard**	**Method 1 GW 3 Standard**																											
Volatile Organic Compounds (VOCs)	8260	µg/l																													
Acetone			50000	50000	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	4.2 J K-	< 10	< 10	< 10	9.3 J	<10	<10	<10	5.3	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0
Benzene			1000	10000	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2000	20000	2.5	< 1.0	< 1.0	< 1.0	0.36 J	< 1.0	< 1.0	< 1.0	0.52 J	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	46.3	55.3	46.6	37.2
1,2-Dichloroethane			5	20000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	13.2	< 1.0	16.7	12.8
cis-1,2-Dichloroethylene			20	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.9	11.8	6.4	21.8
trans-1,2-Dichloroethylene			90	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	0.70 J	< 1.0	< 1.0
1,2-Dichloropropane			3	50000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5000	50000	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	<250	<250	<50	<50	< 25	< 25	< 25	< 25
Ethylbenzene			20000	5000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50000	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.0	3.8	2.4	2.1
Methylene chloride			2000	50000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30000	< 1.0	0.71 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	182	258	177	157
Tetrahydrofuran			NS	NS	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10
Toluene			50000	40000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.51 J	1.6	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4000	20000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	1.3	1.2	1.1
1,1,2-Trichloroethane			900	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	59.6	136	68.8	71.0
Vinyl chloride			2	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.39 J	< 1.0	< 1.0	< 1.0
m,p-Xylene			3000	5000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3000	5000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3000	5000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D
Sample Name:					MW901	MW121D	MW900 (FD)	MW121D	MW901 (FD)	MW121D	MW900 (FD)	MW121D	MW900 (FD)	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D
Well Screen Interval (ft bgs):					32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1
Sample Date:					7/14/08	10/22/08	10/22/08	1/12/09	1/12/09	4/13/09	4/13/09	7/14/09	7/14/09	10/14/09	4/12/10	4/20/11	4/16/12	11/12/12	4/23/13	11/18/13	4/30/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW 2 Standard**	**Method 1 GW 3 Standard**																					
Volatile Organic Compounds (VOCs)	8260	µg/l																							
Acetone			50000	50000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0 K-	< 5.0 K-	< 10	< 10 K-	< 10	< 10	< 10	< 10	8.7 J	< 10
Benzene			1000	10000	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
Carbon disulfide			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS	< 2.0	< 2.0 J+	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2000	20000	38.1	36.1	34.2	38.2	38.3	37.2	38.1	37.6	37.9	54.8	52.9	65.8	67.7	49.9	63.4	32.1	45.0	149.0	55.7	35.9	40.2	109.0
1,2-Dichloroethane			5	20000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30000	12.6	12.9 G	8.4 G	14.0	14.2	14.1	14.2	11.0	10.4	21.8	18.0	24.1	25.5	17.6	22.3	12.7	17.6	59.7 K+	23.5	14.5	14.9	35.9
cis-1,2-Dichloroethylene			20	50000	22.6	83.7 G	41.2 G	134	138	80.0	78.4	105	106	253	279	217	178	122	193	67.2	133	316	186	73.6	108	271
trans-1,2-Dichloroethylene			90	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.8	< 1.0	< 1.0	2.9	< 1.0	1.5	0.57 J K+	<1.0	<1.0	<1.0	1.1
1,2-Dichloropropane			3	50000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5000	50000	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25 K-	< 25 K-	<25	<25	<25	< 50
Ethylbenzene			20000	5000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
4-Isopropyltoluene			NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50000	50000	2.0	5.6	5.6	1.8	1.8	1.7	1.9	1.4	1.4	< 1.0	0.94 J	2.0	1.7	2.1	8.6 K-	2.7	2.3	7.1 K+	2.1	1.6	0.72 J	1.7
Methylene chloride			2000	50000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	< 1.0
Tetrachloroethylene (PCE)			20	30000	154	148 G	97.7 G	112	114	121	118	140	139	115	119	219	356	223	276	124	163	224	216	216	227	139
Tetrahydrofuran			NS	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10	< 10	< 10	< 10	< 10	< 10 F- K-	< 10	< 10	< 10 G	< 10	< 10	< 10	< 10	< 10
Toluene			50000	40000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4000	20000	1.0	4.9	4.6	0.87 J	0.86 J	1.0	< 1.0	0.95 J	1.0	< 1.0	0.62 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.53 J	0.44 J	1.4	0.56 J	1.1	< 1.0
1,1,2-Trichloroethane			900	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5000	72.0	48.3 G	69.0 G	36.5	36.3	62.3	70.7	76.3	76.5	146.0	96.3	233.0	342	207	342	115	236	432	266	148	262	176
Vinyl chloride			2	50000	< 1.0	< 1.0	< 1.0	0.32 J	0.31 J	< 1.0	< 1.0	0.56 J	0.52 J	< 1.0	< 1.0	7.4	15.2	8.5	10.2	3.4	9.5	38.4 G K-	15	7.5	18.2	23.3
m,p-Xylene			3000	5000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3000	5000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3000	5000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121S	MW121S	MW121S	MW121S
					Sample Name:	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121S	MW121S	MW121S	MW121S
					Well Screen Interval (ft bgs):	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	5 to 20	5 to 20	5 to 20	5 to 20
					Sample Date:	4/17/17	11/8/17	4/3/18	11/15/18	4/15/19	11/22/19	4/16/20	11/18/20	4/13/21	11/30/21	4/13/22	11/29/22	4/18/23	11/7/23	4/3/24	11/14/24	4/23/25	11/11/25	2/3/26	10/22/07	1/15/08	4/17/08	7/14/08
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																									
Acetone			50000	50000		< 10	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0
Benzene			1000	10000		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000		< 10	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	3.4	<2.0	<2.0	2	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2000	20000		32.0	47.6	14.8	14.0	18.8	18.0	16	12	18	18	18	38	24	25	2.1	19	8.4	4.6	18	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			5	20000		< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30000		14.8	15.3	7.6	7.0	7.7	8.7	8.6	8.0	7.5	6.3	2.3	7.3	5.5	5.7	<1.0	4.1	1.4	1	3.4	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			20	50000		79.9	119	24.8	44.3	73.5	85.4	20	26	37	18	33	11	17	16	2.8	8.4	9	3.9	15	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			90	50000		0.37 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5000	50000		< 130	< 130	< 130	< 130	< 130	< 130	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<50	<50	< 25	< 25	< 25	< 25
Ethylbenzene			20000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS		< 2.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50000	50000		1.4	1.4	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.3	3.3	2.1	<2.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			2000	50000		< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	5.2	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30000		160	242	78	47.5	48.2	64.8	87	58	72	52	1.9	54	35	35	<1.0	26	1.6	2.1	9.9	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			NS	NS		< 10	< 10	< 10	< 10	< 10	< 10	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10
Toluene			50000	40000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4000	20000		0.45 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			900	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5000		159	310	39.7	23.5	31.1	40.0	34	22	40	27	5	32.0	20.0	23	<1.0	14	4.5	4.1	13	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			2	50000		6.6	10.4	<1.0	6.1	9	4.5	<1.0	2.0	1.5	1.0	31.0	3.0	8.6	3.2	2.0	1.7	2.8	<2.0	4.8	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW122	MW122	MW122	MW122	MW122	MW122
					Sample Name:	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW122	MW122	MW122	MW122	MW122	MW122
					Well Screen Interval (ft bgs):	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16
					Sample Date:	10/22/08	1/12/09	4/13/09	7/14/09	10/14/09	4/12/10	4/20/11	4/16/12	4/23/13	4/30/14	4/2/15	4/28/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/13/22	4/13/22	4/3/24	4/23/25	11/11/25	2/3/26	1/30/08	4/17/08	7/14/08	10/22/08	1/12/09	4/13/09
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																															
Acetone			50000	50000		< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 5.0 J+	< 5.0	8.2 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	< 5.0 J+	9.6 J	11.1	7.2	5.7	< 5.0
Benzene			1000	10000		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<1.0	<1.0	< 0.50	< 1.0	0.46 J	< 0.50	< 0.50	< 0.50
Bromodichloromethane			6	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	1.1 J	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			50000	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0 J+	< 10	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	13.4	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			200	1000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	0.61 J	< 1.0	< 1.0
Chloromethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 4.0	< 2.0	< 2.0 J+	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2000	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	19.3	30.4 C+	10.1	15.0	16.0	25.8
1,2-Dichloroethane			5	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			80	30000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.0	9.0 C+	1.4	4.4	3.4	6.1
cis-1,2-Dichloroethylene			20	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	60.6	70.7 C+	34.0	62.5	91.5	61.9
trans-1,2-Dichloroethylene			90	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.87 J	< 2.0	< 1.0	< 1.0	< 1.0	0.93 J
1,2-Dichloropropane			3	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			5000	50000		< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25 K-	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	<250	<250	<50	<50	< 25	< 50	< 25	< 25	< 25	< 25
Ethylbenzene			20000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0 J+	< 10	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			50000	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.3	3.9 C+	1.9	5.6	2.5	3.2
Methylene chloride			2000	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 10	2.6 J	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	477	691 C+	122	352 G	312	499 G
Tetrahydrofuran			NS	NS		< 10	< 10	< 10	< 10 F+	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	<10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 10	< 20	< 10	< 10	< 10	< 10
Toluene			50000	40000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	6.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.48 J	< 2.0	2.8	3.7	0.64 J	2.4
1,1,1-Trichloroethane (TCA)			4000	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	3.4 C+	0.63 J	5.1	1.1	1.7
1,1,2-Trichloroethane			900	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			5	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	177	106 C+	27.0	56.9	59.6	91.7
Vinyl chloride			2	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.32 J	< 2.0	< 1.0	< 1.0	1.2	< 1.0
m,p-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 2.0	0.92 J	< 1.0	< 1.0	< 1.0
o-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	0.67 J	< 1.0	< 1.0	< 1.0
Total Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	1.6 J	< 1.0	< 1.0	< 1.0

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:					MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122
Sample Name:					MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122
Well Screen Interval (ft bgs):					4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16
Sample Date:					7/15/09	10/14/09	4/12/10	10/27/10	4/20/11	11/16/11	4/17/12	11/12/12	4/23/13	11/18/13	4/30/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16	4/17/2017	11/8/2017	4/3/2018	11/15/2018	4/16/2019	11/22/2019	4/16/2020	11/18/2020	4/13/2021	11/30/2021	4/13/2022
Collected By:					GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**Method 1 GW 2 Standard**	**Method 1 GW 3 Standard**																											
Volatile Organic Compounds (VOCs)	8260	µg/l																													
Acetone			50000	50000	< 5.0 F-	< 10	3.8 J+	< 5.0	17.8	< 5.0	< 5.0	< 25 K-	< 50	< 50 K-	< 20	< 20	< 20	< 10	9.4 J	< 40	< 50	< 10	<50	<50	<20	<50	<50	<50	<25	<100	<100
Benzene			1000	10000	0.23 J	< 1.0	< 0.50	< 0.50	< 1.0	< 0.50	< 0.50	< 2.5	< 2.5	< 2.5	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 2.0	< 2.5	< 0.50	<2.5	<2.5	<1.0	<2.5	<5.0	<5.0	<2.5	<10	<10
Bromodichloromethane			6	50000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20
2-Butanone (MEK)			50000	50000	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25 K-	< 25	< 25	< 10	< 10	< 10	17.3 J	< 10	< 40	< 50	< 10	<50	<50	<20	<50	<50	<50	<50	<100	<100
Carbon disulfide			NS	NS	< 5.0 F-	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 10	< 2.0	<10	<10	<4.0	<10	<20	<20	<5	<40	<40
Carbon tetrachloride			2	5000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5	<20	<20
Chlorobenzene			200	1000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20
Chloroethane			NS	NS	< 2.0 F-	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0 G	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<20	<20	<10	<40	<40
Chloroform			50	20000	< 1.0	0.75 J	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20
Chloromethane			NS	NS	< 2.0 F-	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0 G	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<20	<20	<10	<40	<40
1,4-Dichlorobenzene			60	8000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5	<20	<20
1,1-Dichloroethane			2000	20000	21.2	20.8	29.6	20.3	19.1	15.2	17.2	14.4	11.1	12.7	15.9	12.8	15.0	6.8	18.3	20.5	30.9	14.8	22.7	17.0	18.8	16.4	29	48	44	46	35
1,2-Dichloroethane			5	20000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20
1,1-Dichloroethylene			80	30000	5.3 F-	6.6	7.3	4.6	8.3	4.1	6.4	4.7 J	4.1 J	4.4 J	5.1	3.8 K+	4.5	1.6 J	5.8	5.6	7.7	3.9	8.1	7.3	6.1	6.9	<10	12	6.9	<20	<20
cis-1,2-Dichloroethylene			20	50000	39.4	109.0	58.6	117	45.5	66.4	61.5	84.7	56.2	67.2	68.0	69.3	43.8	75.7	61.3	68.5	67.2	50	64.4	71.0	69.1	95.8	150	150	110	130	130
trans-1,2-Dichloroethylene			90	50000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0 K+	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20
1,2-Dichloropropane			3	50000	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20
1,4-Dioxane			5000	50000	< 25	< 50	< 25	< 25	< 50	< 25	< 25 K-	< 130	< 260	< 260	< 50 K-	< 50 K-	< 50	< 50	< 50	< 200	< 630	< 130	<630	<630	<250	<630	<2500	<2500	<1200	<5000	<5000
Ethylbenzene			20000	5000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20
2-Hexanone			NS	NS	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25 K-	< 10	< 10	< 10	< 10	< 10	< 40	< 25	< 5.0	<25	<25	<2.0	<25	<50	<50	<25	<100	<100
4-Isopropyltoluene			NS	NS	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 10	< 20	< 10	< 2.0	<10	<10	<4.0	<10	<20	<20	<20	<40	<40
Methyl tert-butyl ether			50000	50000	3.3	2.9	2.3	2.7	2.9	2.1	2.7	2.2 J	< 5.0 K-	< 5.0	1.5 J	2.6 K+	1.8	1.0 J	1.2	< 4.0	3.7	1.1	<5.0	<5.0	2.1	<5.0	<20	<20	<10	<40	<40
Methylene chloride			2000	50000	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	1.1 J	< 2.0	39.4	< 10	< 2.0	<10	<10	<4.0	<10	<20	<20	<20	<40	<40
Naphthalene			700	20000	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 25	< 5.0	<25	<25	<10	<25	<20	<20	<10	<40	<40
Tert-amyl methyl ether			NS	NS	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	< 8.0	< 10	< 2.0	<10	<10	<4.0	<10	<20	<20	<10	<40	<40
1,1,1,2-Tetrachloroethane			10	50000	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	<2.0	<2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20
Tetrachloroethylene (PCE)			20	30000	677	518	856	532	656	581	1000	811	938	726	592	499	784	326	734	684	910	579	959	1150	1060	961	1200	1400	820	1600	1700
Tetrahydrofuran			NS	NS	< 10	< 20	< 10	< 10	< 20	< 10	< 10	< 50 F- K-	< 50	< 50	< 20 G	< 20	< 20	< 20	< 10	< 40	< 50	< 10	<50	<50	<20	<50	<20	<20	<10	<40	<40
Toluene			50000	40000	1.6	< 4.0	6.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	6	< 2.0	0.79 J	0.72	< 2.0	< 1.0	< 4.0	< 5.0	20.7	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20
1,1,1-Trichloroethane (TCA)			4000	20000	1.7	< 2.0	1.5	< 1.0	7.5	1.4	2.2	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	2.0	< 2.0	0.92 J	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20
1,1,2-Trichloroethane			900	50000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20
Trichloroethylene (TCE)			5	5000	90.2	81.1	119.0	82.1	73.1	79.0	103	88.0	93.4	76.0	98.9	58.9	82.9	44.9	98.3	87.1	102.0	63.3	110.0	122	121	131	140	170	130	220	210
Vinyl chloride			2	50000	< 1.0 F-	4.3	< 1.0	3.6	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0 K-	1.8	1.2	0.73 J	< 4.0	< 5.0	1.3	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20
m,p-Xylene			3000	5000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<20	<20	<10	<40	<40
o-Xylene			3000	5000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20
Total Xylene			3000	5000	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW201	MW201	MW201	MW201	MW201	MW201	MW201	MW201	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202
					Sample Name:	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW201	MW201	MW201	MW201	MW201	MW201	MW201	MW201	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202
					Well Screen Interval (ft bgs):	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	11 to 21	11 to 21	11 to 21	11 to 21	11 to 21	11 to 21	11 to 21	11 to 21	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5
					Sample Date:	11/29/2022	4/17/2023	11/7/2023	4/4/2024	11/14/2024	4/24/2025	11/12/2025	1/7/2026	2/4/2026	7/19/07	10/12/07	1/11/08	4/15/08	4/3/24	4/23/25	11/12/25	2/3/26	7/19/07	10/12/07	1/11/08	4/15/08	7/15/08	10/21/08	1/13/09	4/15/09
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																												
Acetone			50000	50000		<50	<50	<5.0	<10	< 50	<50	<50	< 20	<20	NT	< 5.0 J+	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Benzene			1000	10000		<5	<5	<0.50	<1	< 5	<5.0	<5.0	< 2.0	<2.0	NT	< 0.50	< 0.50	< 0.50	<0.5	<0.50	<0.50	<0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J+
Bromodichloromethane			6	50000		<10	<10	<1.0	<2.0	< 10	<10	<10	< 2.0	<4.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+
2-Butanone (MEK)			50000	50000		<50	<50	<5.0	<10	< 50	<50	<50	< 20	<20	NT	< 5.0 J+	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NS	NS		<20	<20	<2.0	<4.0	< 20	<20	<20	< 10	<8.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			2	5000		<10	<10	<1.0	<2.0	< 10	<10	<10	< 2.0	<4.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+
Chlorobenzene			200	1000		<10	<10	<1.0	<2.0	< 10	<10	<10	< 2.0	<4.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			NS	NS		<20	<20	<2.0	<4.0	< 20	<20	<20	< 4.0	<8.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			50	20000		<10	<10	<1.0	<2.0	< 10	<10	<10	< 4.0	<4.0	NT	0.47 J	0.40 J	0.24 J	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NS	NS		<20	<20	<2.0	<4.0	< 20	<20	<20	< 4.0	<8.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			60	8000		<10	<10	<1.0	<2.0	< 10	<10	<10	< 2.0	<4.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			2000	20000		24	18	16	3.1	12	<10	<10	4.5	<4.0	< 1.0	0.66 J	< 1.0	0.23 J	<1.0	<1.0	<1.0	<1.0	0.50 J	< 1.0	< 1.0	0.46 J	< 1.0	< 1.0	0.34 J	< 1.0
1,2-Dichloroethane			5	20000		<10	<10	<1.0	<2.0	< 10	<10	<10	< 2.0	<4.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+
1,1-Dichloroethylene			80	30000		<10	<10	7.7	<2.0	< 10	<10	<10	< 2.0	<4.0	4.7	4.9	5.2	3.0	1.3	<1.0	<1.0	<1.0	1.1	< 1.0	< 1.0	2.9	2.8	1.6	1.9	3.2
cis-1,2-Dichloroethylene			20	50000		180	110	130	22	140	76	410	130	68	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			90	50000		<10	<10	<1.0	<2.0	< 10	<10	<10	< 2.0	<4.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			3	50000		<10	<10	<1.0	<2.0	< 10	<10	<10	< 2.0	<4.0	NT	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+
1,4-Dioxane			5000	50000		<2500	<2500	<250	<500	< 2500	<2500	<2500	< 100	<1000	NT	< 25	< 25	< 25	<250	<250	<250	<250	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+
Ethylbenzene			20000	5000		<10	<10	<1.0	<2.0	< 10	<10	<10	14	120	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NS	NS		<50	<50	<5.0	<10	< 50	<50	<50	< 20	<20	NT	< 5.0 J+	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NS	NS		<20	<20	<2.0	<4.0	< 20	<20	<20	< 2.0	<8.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+
Methyl tert-butyl ether			50000	50000		<20	<20	2.9	<4.0	< 20	<20	<20	2.5	<8.0	NT	75.8	240	0.26 J	<2.0	<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	1.2	< 1.0	< 1.0	0.92 J	< 1.0
Methylene chloride			2000	50000		<20	<20	<2.0	<4.0	< 20	<20	<20	< 4.0	<8.0	NT	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			700	20000		<20	<20	<2.0	<4.0	< 20	<20	<20	< 4.0	<8.0	NT	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+
Tert-amyl methyl ether			NS	NS		<20	<20	<2.0	<4.0	< 20	<20	<20	< 1.0	<8.0	NT	4.6	17.7	< 2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			10	50000		<10	<10	<1.0	<2.0	< 10	<10	<10	< 2.0	<4.0	NT	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			20	30000		1200	1700	1600	170	1300	840	210	42	90	5.1	19.6	25.8	18.0	4.8	9 K+	13	8.5	17.2	14.6	21.8	55.6	48.5	39.4	37.5	53.5
Tetrahydrofuran			NS	NS		<20	<20	<2.0	<4.0	< 20	<20	<20	< 4.0	<8.0	NT	< 10	< 10	< 10	<2.0	<2.0	<2.0	<2.0	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+
Toluene			50000	40000		<10	<10	<1.0	<2.0	< 10	<10	<10	< 4.0	<10	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+
1,1,1-Trichloroethane (TCA)			4000	20000		<10	<10	<1.0	<2.0	< 10	<10	<10	< 2.0	<4.0	9.8	36.3	32.9	7.3	3.9	2.7	1.9	2.6	12.5	4.4	4.2	35.2	18.9	7.1	8.0	15.7
1,1,2-Trichloroethane			900	50000		<10	<10	<1.0	<2.0	< 10	<10	<10	< 2.0	<4.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+
Trichloroethylene (TCE)			5	5000		160	170	200	41	150	100	<50	8.7	15	4.5	7.2	8.2	6.4	2.1	2.5	3.2	2.4	2.2	1.5	1.6	6.9	8.6	5.3	5.6	11.8 J+
Vinyl chloride			2	50000		<10	<10	1.6	<2.0	< 10	<10	<10	22	7.7	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			3000	5000		<20	<20	<2.0	<4.0	< 20	<20	<20	< 4.0	<8.0	NT	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			3000	5000		<10	<10	<1.0	<2.0	< 10	<10	<10	< 2.0	<4.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			3000	5000		<10	<10	<1.0	<2.0	< 10	<10	<10	< 2.0	<4.0	NT	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW203	MW203	MW203R	MW203R
					Sample Name:	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW203	MW203	MW203R	MW203R
					Well Screen Interval (ft bgs):	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	6 to 18	6 to 18	13 to 23	13 to 23
					Sample Date:	7/14/09	10/14/09	4/12/10	4/22/11	4/17/12	4/23/13	5/1/14	4/2/15	4/29/16	4/17/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	4/18/23	4/3/24	4/23/25	11/12/25	2/3/26	7/19/07	4/15/08	4/4/24	4/24/25
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																											
Acetone			50000	50000		< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 10	< 10	9.7	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	NT	< 250	<250	<250
Benzene			1000	10000		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	NT	< 25	<25	<25
Bromodichloromethane			6	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	<5.00	<50
2-Butanone (MEK)			50000	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	< 250	<250	<250 K-
Carbon disulfide			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 250	<100	<100
Carbon tetrachloride			2	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 50	<5.00	<50
Chlorobenzene			200	1000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	<5.00	<50
Chloroethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 100	<100	<100
Chloroform			50	20000		< 1.0	< 1.0	0.89 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	<5.00	<50
Chloromethane			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 100	<100	<100 K-
1,4-Dichlorobenzene			60	8000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	<5.00	<50
1,1-Dichloroethane			2000	20000		< 1.0	3.1	5.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	22.2	13.0 J	<5.00	<50
1,2-Dichloroethane			5	20000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 50	<5.00	<50
1,1-Dichloroethylene			80	30000		< 1.0	< 1.0	< 1.0	15.5	< 1.0	2.4	0.93 J	0.92 J	< 1.0	0.46 J	1.1	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	76.4	36.6 J	<5.00	<50
cis-1,2-Dichloroethylene			20	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	102	78.9	<5.00	<50
trans-1,2-Dichloroethylene			90	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	< 50	<5.00	<50
1,2-Dichloropropane			3	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 100	<5.00	<50
1,4-Dioxane			5000	50000		< 25	< 25	< 25	< 25	< 25 K-	< 50	< 50	<25	<25	<130	<130	<130	<250	<250	<250	<250	<250	<250	<50	<50	NT	< 1300	<12000	<12000
Ethylbenzene			20000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	<50	<50
2-Hexanone			NS	NS		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	< 250	<250	<250 K-
4-Isopropyltoluene			NS	NS		< 5.0	< 5.0	< 5.0	11.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 250	<100	<100
Methyl tert-butyl ether			50000	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 50	<100	<100
Methylene chloride			2000	50000		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 100	<100	<100
Naphthalene			700	20000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 250	<100	<100
Tert-amyl methyl ether			NS	NS		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 100	<100	<100
1,1,1,2-Tetrachloroethane			10	50000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 250	<50	<50
Tetrachloroethylene (PCE)			20	30000		52.6	61.8	84.9	86.5	20.6	37.0	31.4	28.1	40.8 K+	20.0	39.4	68.9	20.0	14.0	5.4	12.0	9.4	13	24	20	15500	11500	7500	5700
Tetrahydrofuran			NS	NS		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 50	<100	<100 K-
Toluene			50000	40000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	<50	<50
1,1,1-Trichloroethane (TCA)			4000	20000		6.6	14.3 J+	16.8	18.6	2.8	5.2	6.9	7.4	7.1	3.5	8.1	9.8	2.7	1.7	<1.0	1.2	1.4	1.5	3.8	2.6	1710	988	<50	<50
1,1,2-Trichloroethane			900	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.66 J	< 50	<50	<50
Trichloroethylene (TCE)			5	5000		7.2	9.8	12.9	8.2	1.5	2.5	1.5	1.4	1.5	0.81 J	1.5	2.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	979	618	120	110
Vinyl chloride			2	50000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 50	<50	<50
m,p-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 50	<100	<100
o-Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	<50	<50
Total Xylene			3000	5000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	<50	<50

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW203R	MW203R	MW-3	MW-3	MW-3	MW-3	MW3	MW3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-301	MW-301	MW-301	MW401D	MW401D	MW401S	MW401S	MW402	MW402	MW403	MW403	MW404	MW404	MW404
					Sample Name:	MW203R	MW203R	MW-3	MW-3	MW-3	MW-3	MW3	MW3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-301	MW-301	MW-301	MW-401D	MW-401D	MW401S	MW401S	MW402	MW402	MW403	MW403	MW404	MW902	MW404
					Well Screen Interval (ft bgs):	13 to 23	13 to 23	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	5-15	5-15	5-15	34-44	34-44	4 to 16	4 to 16	20-30	20-30	80-90	80-90	72.4-82.5	72.5-82.5	72.4-82.5
					Sample Date:	11/10/25	2/3/26	7/1/02	8/9/04	5/23/06	1/17/07	4/17/07	4/15/08	7/15/08	10/21/08	1/14/09	4/14/09	7/15/09	10/16/09	1/20/25	4/23/25	11/11/25	11/13/25	2/4/26	11/13/2025	2/4/2026	11/11/25	2/3/26	11/11/25	2/3/26	11/12/25	11/12/25	2/5/26
					Collected By:	GEI	GEI	SHA	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																															
Acetone			50000	50000		<250	<250	< 2500	< 2000	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<10	<1000	<100	<50	<5.0	<10	32	<10	<100	< 4000	< 4000	<1200
Benzene			1000	10000		<25	<25	< 250	< 100	0.37 J	0.71	< 13	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.5	<0.5	<100	<10	<5.0	<0.50	<0.5	<0.5	<0.5	<10	< 200	< 200	<120
Bromodichloromethane			6	50000		<50	<50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250
2-Butanone (MEK)			50000	50000		<250	<250	< 2500	< 1000	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	<5.0	<5.0	<5.0	<1000	<100	<50	<5.0	<5.0	<5.0	<5.0	<40	< 2000	< 2000	<1200
Carbon disulfide			NS	NS		<100	<100	< 2500	< 5.0	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<500	<500	<20	<2.0	<2.0	<2.0	<2.0	<40	< 1000	< 1000	<500
Carbon tetrachloride			2	5000		<50	<50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250
Chlorobenzene			200	1000		<50	<50	< 250	< 100	< 1.0	0.52 J	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250
Chloroethane			NS	NS		<100	<100	< 5.0	< 200	< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<200	<40	<20	<2.0	<2.0	<2.0	<2.0	<40	< 400	< 400	<500
Chloroform			50	20000		<50	<50	< 380	< 100	2.1	3.4	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<200	<40	<10	<10	<1.0	<1.0	<1.0	<20	< 200	< 200	<250
Chloromethane			NS	NS		<100	<100	< 1200	< 200	< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<200	<40	<20	<2.0	<2.0	<2.0	<2.0	<40	< 400	< 400	<500
1,4-Dichlorobenzene			60	8000		<50	<50	< 1200	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250
1,1-Dichloroethane			2000	20000		<50	<50	< 380	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	500	130	7.8	1.9	5.6	4	48	<20	< 200	< 200	260
1,2-Dichloroethane			5	20000		<50	<50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250
1,1-Dichloroethylene			80	30000		<50	<50	< 250	< 100	6.9	5.6	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	28	<10	<1.0	3.2	2.3	<10	<10	< 200	< 200	<250
cis-1,2-Dichloroethylene			20	50000		<50	<50	< 250	< 100	< 1.0	1.9	< 25	< 1.0	0.56 J	< 1.0	< 1.0	< 1.0	0.43 J	2.3 J+	<1.0	<1.0	<1.0	400	120	14	8.7	<1.0	<1.0	13	<20	< 200	< 200	<250
trans-1,2-Dichloroethylene			90	50000		<50	<50	< 380	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250
1,2-Dichloropropane			3	50000		<50	<50	< 880	< 100	< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250
1,4-Dioxane			5000	50000		<12000	<12000	NT	NT	< 25	< 25	< 630	< 25	< 25	< 25	< 25	< 25	< 25	< 25	<250	<50	<50	<5000 K-	<5000	<2500 K-	<250	<50	<50	<50	<5000	<200	< 200	<62000
Ethylbenzene			20000	5000		<50	<50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<1.0	< 200	< 200	<250
2-Hexanone			NS	NS		<250	<250	< 2500	< 1000	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<1000	<100	<50	<5.0	<5.0	<5.0	<5.0	<40	< 2000	< 2000	<1200
4-Isopropyltoluene			NS	NS		<100	<100	< 250	< 100	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<100	<20	<20	<2.0	<2.0	<2.0	<2.0	<40	< 200	< 200	<500
Methyl tert-butyl ether			50000	50000		<100	<100	< 5.0	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<100	<20	<20	<2.0	<2.0	<2.0	<2.0	<40	< 200	< 200	<500
Methylene chloride			2000	50000		<100	<100	< 2500	< 1000	< 2.0	< 2.0	71.5	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<500	<40	<20	<2.0	<2.0	<2.0	<2.0	<40	< 2000	< 2000	<500
Naphthalene			700	20000		<100	<100	< 1200	< 100	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	<2.0	<2.0	<2.0	<200	<40	<20	<2.0	<2.0	<2.0	<2.0	<40	< 200	< 200	<500
Tert-amyl methyl ether			NS	NS		<100	<100	NT	NT	< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	<2.0	<2.0	<2.0	<50	<50	<20	<2.0	<2.0	<2.0	<2.0	<40	<200	<200	<200
1,1,1,2-Tetrachloroethane			10	50000		<50	<50	< 250	< 100	1.9 J	4.4 J	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250
Tetrachloroethylene (PCE)			20	30000		5000	5500	16000	16200	22100	51900	6550	400	427	606	176	141	280	391	<1.0	<1.0	<1.0	12000 K+	2300	440 K+	76	290	140	710	1400	44000	45000	26000
Tetrahydrofuran			NS	NS		<100	<100	NT	NT	< 10	< 10	< 250	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<2.0	2	<2.0	<200	<40	<20	<2.0	<2.0	<2.0	<2.0	<40	<200	<200	<500
Toluene			50000	40000		<50	<50	< 380	< 100	0.62 J	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250
1,1,1-Trichloroethane (TCA)			4000	20000		<50	<50	< 250	< 100	39.1	68.7	11.1 J	< 1.0	0.43 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	<200	<200	<250
1,1,2-Trichloroethane			900	50000		<50	<50	< 380	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250
Trichloroethylene (TCE)			5	5000		120	87	< 250	< 100	86.6	247	13.8 J	1.9	3.5	4.2	1.3	1.3	2.7	3.6	<1.0	<1.0	<1.0	2600	470	66	14	36	17	120	140	2600	2700	1300
Vinyl chloride			2	50000		<50	<50	< 5.0	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<200	<40	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250
m,p-Xylene			3000	5000		<100	<100	< 250	< 200	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<200	<40	<20	<2.0	<2.0	<2.0	<2.0	<40	< 400	< 400	<500
o-Xylene			3000	5000		<50	<50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<100	<20	<10	<1.0	<1.0	<1.0	<1.0	<20	< 200	< 200	<250
Total Xylene			3000	5000		<50	<50	ND	ND	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<200	<40	<10	<1.0	<1.0	<1.0	<1.0	<20	<200	<200	<250

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location:	MW404	MW405	MW405	MW406	MW406	MW407	MW407	MW-CS1	SH-1	SH-3	SH-4	SH-MW1	SH-MW-1	SH-MW-1	SH-MW1	SHMW1	SH-MW2	SH-MW2	SH-MW-2	SH-MW-2	SH-MW2	SHMW2	SH-MW2	SH-MW2	SH-MW2	SH-MW2	SH-MW2R	SH-MW2R
					Sample Name:	MW902	MW405	MW405	MW406	MW406	MW-407	MW407	MW-CS1	SH-1	SH-3	SH-4	SH-MW1	SH-MW-1	SH-MW-1	SH-MW1	SHMW1	SH-MW2	SH-MW2	SH-MW-2	SH-MW-2	SH-MW2	SHMW2	SH-MW2	SH-MW2	SH-MW2	SH-MW2	SH-MW2R	SH-MW2R
					Well Screen Interval (ft bgs):	72.5-82.5	8-18	8-18	4-14	4-14	4.45-14.45	4.5-14.5	Unknown	9 to 14	8 to 13	11 to 16	10 to 30	10 to 30	10 to 30	10 to 30	10 to 30	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 23	10 to 23
					Sample Date:	2/5/26	11/10/25	2/2/26	11/10/25	2/2/26	1/7/26	2/4/26	5/23/07	8/9/04	8/9/04	5/25/06	7/8/02	5/23/06	10/4/06	1/16/07	4/12/07	7/8/02	8/16/04	5/23/06	10/4/06	1/16/07	4/16/07	7/19/07	4/28/17	4/4/18	4/16/19	4/3/24	4/24/25
					Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GeoInsight	GEI	SHA	GEI	GEI	GEI	GEI	SHA	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																														
Acetone			50000	50000		<1200	<10	<10	14	<5.0	12	<5.0	< 5.0	< 4000	< 2000	30.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 2000	< 5.0	< 5.0	< 5.0	< 10	NT	<10	<10	<10	<100	<200
Benzene			1000	10000		<120	<0.5	0.62	<0.5	<0.5	1.1	<0.5	< 0.50	< 200	< 100	< 0.50	< 250	< 0.50	0.61	< 0.50	0.33 J	< 25	< 100	< 0.50	< 0.50	< 0.50	< 1.0	NT	<0.50	<0.50	<0.50	<10	<20
Bromodichloromethane			6	50000		<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<20	<40
2-Butanone (MEK)			50000	50000		<1200	<5.0	<5.0	<5.0	<5.0	< 10	<5.0	< 5.0	< 2000	< 1000	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 1000	< 5.0	< 5.0	< 5.0	< 10	NT	<10	<10	<10	<100	<200 K-
Carbon disulfide			NS	NS		<500	<2.0	<2.0	<2.0	<2.0	< 5.0	<2.0	0.54 J	< 1000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 10	NT	<2.0	<2.0	<2.0	<40	<80
Carbon tetrachloride			2	5000		<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<20	<40
Chlorobenzene			200	1000		<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	0.52 J	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<20	<40
Chloroethane			NS	NS		<500	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0	< 2.0	< 400	< 200	< 2.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 200	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	<1.0	<1.0	<1.0	<40	<80
Chloroform			50	20000		<250	<1.0	<1.0	<1.0	2.2	< 2.0	<1.0	< 1.0	< 200	< 100	13.3	< 380	2.1	4.6	1.7	3.4	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<20	<40
Chloromethane			NS	NS		<500	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0	< 2.0	< 400	< 200	< 2.0	< 1200	< 2.0	< 2.0	< 2.0	< 2.0	< 120	< 200	< 2.0	< 2.0	< 2.0	< 4.0	NT	<1.0	<1.0	<1.0	<40	<80 K-
1,4-Dichlorobenzene			60	8000		<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	< 1.0	< 1200	< 1.0	< 1.0	< 1.0	< 1.0	< 120	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<20	<40
1,1-Dichloroethane			2000	20000		<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	15.9	< 380	11.4	12.0	8.5	12.7	< 38	< 100	1.0	20.9	5.7	< 2.0	12.4	<1.0	<1.0	<1.0	<20	<40
1,2-Dichloroethane			5	20000		<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	103	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<20	<40
1,1-Dichloroethylene			80	30000		<250	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	< 1.0	< 200	< 100	556 E	< 250	11.7	19.3	9.0	24.4	< 25	< 100	10.1	45.0	9.8	2.1	23.8	0.65 J	<1.0	<1.0	<20	<40
cis-1,2-Dichloroethylene			20	50000		<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	16.6	< 250	2.1	7.3	11.2	2.7	< 25	< 100	3.9	45.7	14.7	1.4 J	26.1	1.7	2.3	3.1	<20	<40
trans-1,2-Dichloroethylene			90	50000		<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	< 1.0	< 380	< 1.0	< 1.0	< 1.0	< 1.0	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<20	<40
1,2-Dichloropropane			3	50000		<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	< 2.0	< 880	< 2.0	< 2.0	< 2.0	< 2.0	< 88	< 100	< 2.0	< 2.0	< 2.0	< 4.0	NT	<1.0	<1.0	<1.0	<20	<40
1,4-Dioxane			5000	50000		<62000 F-	<50	<50	<50	<50	< 50	<50	< 25	NT	NT	57700	NT	< 25	< 25 R	< 25	< 25	NT	NT	< 25	< 25 R	< 25	< 5.0	NT	<130	<130	<130	<5000	<10000
Ethylbenzene			20000	5000		<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<20	<40
2-Hexanone			NS	NS		<1200	<5.0	<5.0	<5.0	<5.0	< 10	<5.0	< 5.0	< 2000	< 1000	5.3	NT	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 1000	< 5.0	< 5.0	< 5.0	< 10	NT	<5.0	<5.0	<5.0	<100	<200 K-
4-Isopropyltoluene			NS	NS		<500	<2.0	<2.0	<2.0	<2.0	< 1.0	<2.0	< 5.0	< 200	< 100	< 5.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 100	< 5.0	< 5.0	< 5.0	< 10	NT	<2.0	<2.0	<2.0	<40	<80
Methyl tert-butyl ether			50000	50000		<500	<2.0	<2.0	<2.0	<2.0	< 1.0	<2.0	66.4	< 200	< 100	< 1.0	< 5.0	< 1.0	0.71 J J+	< 1.0	0.74 J J+	< 5.0	< 100	< 1.0	8.7 J+	1.4	< 2.0	NT	<1.0	<1.0	<1.0	<40	<80
Methylene chloride			2000	50000		<500	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0	< 2.0	< 2000	< 1000	12.2	< 2500	< 2.0	< 2.0	< 2.0	< 2.0	< 250	< 1000	< 2.0	< 2.0	< 2.0	2.3 J	NT	<2.0	<2.0	<2.0	<40	<80
Naphthalene			700	20000		<500	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0	< 5.0	< 200	< 5.0	< 5.0	< 1200	< 5.0	< 5.0	< 5.0	< 5.0	< 120	< 100	< 5.0	< 5.0	< 5.0	< 10	NT	<5.0	<5.0	<5.0	<40	<80
Tert-amyl methyl ether			NS	NS		<200	<2.0	<2.0	<2.0	<2.0	< 0.50	<2.0	< 2.0	NT	NT	1.9 J	NT	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 4.0	NT	<2.0	<2.0	<2.0	<40	<80
1,1,1,2-Tetrachloroethane			10	50000		<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 5.0	< 200	< 100	40.4	< 250	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 100	< 5.0	< 5.0	< 5.0 F+	< 10	NT	<1.0	<1.0	<1.0	<20	<40
Tetrachloroethylene (PCE)			20	30000		25000	<1.0	<1.0	1	<1.0	40	38	< 1.0	49700	19500	7240	21000	16200	28300	31700 F+	48900	2000	7170	1730	7190	2880 F+	726	3320	365	459	439	2500	3800
Tetrahydrofuran			NS	NS		<200	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0	< 10	NT	NT	< 10	NT	< 10	< 10	< 10	< 10	NT	NT	< 10	< 10	< 10	< 20	NT	<10	<10	<10	<40	<80 K-
Toluene			50000	40000		<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	1.8	< 380	0.61 J	0.47 J	< 1.0	0.36 J	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<20	<40
1,1,1-Trichloroethane (TCA)			4000	20000		<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	1150	2070	7610	< 250	34.5	69.7 J+	31.4	27.9 J+	660	1550	158	1330	360	44.1	539	6.8	7.9	14.8	<20	<40
1,1,2-Trichloroethane			900	50000		<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	172	< 380	< 1.0	< 1.0	< 1.0	< 1.0	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<20	<40
Trichloroethylene (TCE)			5	5000		1300	<1.0	<1.0	<1.0	<1.0	4.1	3.5	< 1.0	906	1440	7580	< 5.0	141	317	141	159	190	572	92.8	486	171	26.5	354	13.2	14.8	16.7	42	56
Vinyl chloride			2	50000		<250	<1.0	<1.0	<1.0	<1.0	< 2.0	<1.0	< 1.0	< 200	< 100	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	0.55 J	< 5.0	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<20	<40
m,p-Xylene			3000	5000		<500	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0	< 1.0	< 400	< 200	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 200	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<40	<80
o-Xylene			3000	5000		<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<20	<40
Total Xylene			3000	5000		<250	<1.0	<1.0	<1.0	<1.0	< 1.0	<1.0	< 1.0	ND	ND	< 1.0	ND	< 1.0	< 1.0	< 1.0	< 1.0	ND	ND	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	<20	<40

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Appendix G. Monitored Natural Attenuation Evaluation
Table G1. VOC Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Analyte	Method	Units	Method 1 GW 2 Standard	Method 1 GW 3 Standard	Sample Location: SH-MW2R Sample Name: SH-MW2R Well Screen Interval (ft bgs): 10 to 23 Sample Date: 11/12/25 Collected By: GEI	Sample Location: SH-MW2R Sample Name: SH-MW2R Well Screen Interval (ft bgs): 10 to 23 Sample Date: 2/5/26 Collected By: GEI	Sample Location: SH-MW3 Sample Name: SH-MW3 Well Screen Interval (ft bgs): 10 to 24 Sample Date: 7/8/02 Collected By: SHA	Sample Location: SH-MW-3 Sample Name: SH-MW-3 Well Screen Interval (ft bgs): 10 to 24 Sample Date: 5/23/06 Collected By: GEI	Sample Location: SH-MW-3 Sample Name: SH-MW-3 Well Screen Interval (ft bgs): 10 to 24 Sample Date: 10/4/06 Collected By: GEI	Sample Location: SH-MW3 Sample Name: SH-MW3 Well Screen Interval (ft bgs): 10 to 24 Sample Date: 1/17/07 Collected By: GEI	Sample Location: SHMW3 Sample Name: SHMW3 Well Screen Interval (ft bgs): 10 to 24 Sample Date: 4/12/07 Collected By: GEI	Sample Location: SHMW3 Sample Name: SHMW3 Well Screen Interval (ft bgs): 10 to 24 Sample Date: 4/15/08 Collected By: GEI	Sample Location: SHMW3 Sample Name: SHMW3 Well Screen Interval (ft bgs): 10 to 24 Sample Date: 4/13/10 Collected By: GEI	Sample Location: SHMW3 Sample Name: SHMW3 Well Screen Interval (ft bgs): 10 to 24 Sample Date: 4/21/11 Collected By: GEI	Sample Location: SH-MW3 Sample Name: SH-MW3 Well Screen Interval (ft bgs): 10 to 24 Sample Date: 4/16/12 Collected By: GEI	Sample Location: SH-MW3 Sample Name: SH-MW3 Well Screen Interval (ft bgs): 10 to 24 Sample Date: 4/23/13 Collected By: GEI	Sample Location: SH-MW3 Sample Name: SH-MW3 Well Screen Interval (ft bgs): 10 to 24 Sample Date: 4/30/14 Collected By: GEI	Sample Location: SH-MW3 Sample Name: SH-MW3 Well Screen Interval (ft bgs): 10 to 24 Sample Date: 4/2/15 Collected By: GEI	Sample Location: COBBLE-IR-1 Sample Name: COBBLE-IR-1 Well Screen Interval (ft bgs): Unknown Sample Date: 6/25/07 Collected By: GEI
Volatile Organic Compounds (VOCs)	8260	µg/l																
Acetone			50000	50000	<200	<250	< 2500	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 500	< 10	< 500	5.8
Benzene			1000	10000	<20	<25	< 250	< 0.50	< 0.50	< 50	< 0.50	< 500	< 0.50	< 50	< 25	< 25	< 0.50	< 25	< 0.50
Bromodichloromethane			6	50000	<40	<50	< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	0.32 J
2-Butanone (MEK)			50000	50000	<200	<250	< 2500	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Carbon disulfide			NS	NS	<80	<100	< 2500	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Carbon tetrachloride			2	5000	<40	<50	< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Chlorobenzene			200	1000	<40	<50	< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Chloroethane			NS	NS	<80	<100	< 5.0	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
Chloroform			50	20000	<40	<50	< 380	0.88 J	0.81 J	< 100	1.1	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	5.6
Chloromethane			NS	NS	<80	<100	< 1200	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
1,4-Dichlorobenzene			60	8000	<40	<50	< 1200	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,1-Dichloroethane			2000	20000	<40	<50	< 380	21.6	36.5	< 100	24.5	< 100	19.5	< 100	< 50	< 50	12.6	24.0 J	< 1.0
1,2-Dichloroethane			5	20000	<40	<50	< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,1-Dichloroethylene			80	30000	<40	<50	< 250	91.0	84.4	< 100	91.3	< 100	14.2	< 100	< 50	< 50	12.5	<50	< 1.0
cis-1,2-Dichloroethylene			20	50000	30	<50	< 250	37.2	102	< 100	39.8	34.5 J	19.8	< 100	< 50	< 50	40.1	27.7 J	< 1.0
trans-1,2-Dichloroethylene			90	50000	<40	<50	< 380	< 1.0	1.1	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,2-Dichloropropane			3	50000	<40	<50	< 880	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
1,4-Dioxane			5000	50000	<10000	<12000 F-	NT	< 25	< 25 R	< 2500	< 25	< 2500	< 25	< 2500	< 1300	< 2600	< 25 K-	<1300	< 25
Ethylbenzene			20000	5000	<40	<50	< 250	< 1.0	< 1.0	180	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
2-Hexanone			NS	NS	<200	<250	NT	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
4-Isopropyltoluene			NS	NS	<80	<100	< 250	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Methyl tert-butyl ether			50000	50000	<80	<100	< 5.0	5.1	8.2 J+	< 100	2.4 J+	< 100	0.83 J	< 100	< 50	< 50 K-	< 1.0	< 50	< 1.0
Methylene chloride			2000	50000	<80	<100	< 2500	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	450	< 100	< 100	< 2.0	< 100	< 2.0
Naphthalene			700	20000	<80	<100	< 1200	< 5.0	< 5.0	392 J	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Tert-amyl methyl ether			NS	NS	<80	<100	NT	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
1,1,1,2-Tetrachloroethane			10	50000	<40	<50	< 250	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	<50	< 5.0
Tetrachloroethylene (PCE)			20	30000	3400	3900	26000	16900	28300	29700	34000	15200	20300	16900	7310	9650	14500	12800	< 1.0
Tetrahydrofuran			NS	NS	<80	<100	NT	< 10	< 10	< 1000	< 10	< 1000	< 10	< 1000	< 500	< 500	< 10 G	< 500	< 10
Toluene			50000	40000	<40	<50	< 380	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,1,1-Trichloroethane (TCA)			4000	20000	<40	<50	1200	989	1680	806	621 E J+	119	19.8 J	< 100	83.0	< 50	48.0	49.9 J	< 1.0
1,1,2-Trichloroethane			900	50000	<40	<50	< 380	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Trichloroethylene (TCE)			5	5000	60	53	870	482	1030	709	1030	306	383.0	342	152	157	231	218	< 1.0
Vinyl chloride			2	50000	<40	<50	< 5.0	< 1.0	< 1.0	< 100	0.83 J	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
m,p-Xylene			3000	5000	<80	<100	< 250	< 1.0	< 1.0	484	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
o-Xylene			3000	5000	<40	<50	< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Total Xylene			3000	5000	<40	<50	ND	< 1.0	< 1.0	543	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. * = micrograms CaCO3 per liter

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table G2. Groundwater Analytical Dataset Properties and Screening Summary
Monitored Natural Attenuation Evaluation
50 Tufts Street, Somerville, Massachusetts
UniFirst Corporation

	DATASET PROPERTIES								Screen. Criteria[6]		Mann Kendall		Linear Regression		Deg Trend Graphs		Presence of PCE Deg. Prod. [7]
Well ID[1]	Location[2]	Depth Cat.[3]	Any CVOC[4] Conc. > Method 1s[5] at least once?	If Yes, List of CVOCs > Method 1s[5]	Latest CVOC Conc. > Method 1s?[5]	If No; Date of Last Method 1[5] Exceedance	Start Date of Dataset	End Date of Dataset	Num. Records	Time Gaps	Include in MK Eval?	If no, why?[6]	Include in LR Analysis?	If no, why?[6]	Include Trend Graphs?	If no, why?[6]	
GEO1	Source	Shallow	Y	TCA, 1,2-DCA, PCE, TCE, 1,1-DCE	N	11/13/25	8/16/04	2/5/26	30	N	Y	--	Y	--	Y	--	Y
GEO2	Source	Shallow	Y	PCE, TCE	Y	--	8/16/04	2/3/26	28	N	Y	--	Y	--	Y	--	Y
GEO3	Core	Shallow	Y	PCE, 1,1-DCE	Y	--	8/16/04	4/13/07	5	N	N	Ins. Rec.; Time Gaps	Y	--	Y	--	Y
GEO4	Core	Shallow	Y	PCE, TCE	Y	--	8/16/04	2/5/26	9	Y	N	Ins. Rec.; Time Gaps	Y	--	Y	--	Y
GEO5	Core	Shallow	Y	PCE, TCE, cis-1,2-DCE	Y	--	8/16/04	2/5/26	9	Y	N	Ins. Rec.; Time Gaps	Y	--	Y	--	Y
GEO6	Core	Shallow	Y	PCE, TCE	Y	--	8/16/04	2/3/26	9	Y	N	Ins. Rec.; Time Gaps	Y	--	Y	--	Y
MW1	Source	Unknown	Y	TCA, PCE, TCE, 1,1-DCE	Y	--	7/1/02	4/17/07	5	Y	N	Ins. Rec.; Time Gaps	Y	--	Y	--	Y
MW3	Source	Unknown	Y	PCE, TCE	Y	--	7/1/02	10/16/09	12	N	Y	--	Y	--	Y	--	Y
MW101	Core	Shallow	Y	PCE, TCE	Y	--	5/24/06	4/13/07	5	N	N	Ins. Rec.	Y	--	Y	--	Y
MW102	Core	Shallow	Y	PCE, TCE	Y	--	5/24/06	2/3/26	12	Y	N	Ins. Rec.; Time Gaps	Y	--	Y	--	Y
MW103	Core	Shallow	Y	PCE, TCE	Y	--	5/24/06	2/3/26	10	Y	N	Ins. Rec.; Time Gaps	Y	--	Y	--	Y
MW104	Core	Shallow	Y	TCE, cis-1,2-DCE, VC	Y	--	5/23/06	4/4/18	23	N	Y	--	Y	--	Y	--	Y
MW104R	Core	Shallow	Y	PCE, TCE	Y	--	4/4/24	2/3/26	7	N	N	Ins. Rec	Y	--	Y	--	Y
MW105	Upgradient	Shallow	N	--	N	N/A	5/24/06	4/23/13	18	N	Y	--	Y	--	Y	--	Y
MW106	Perimeter	Shallow	N	--	N	N/A	1/18/07	2/3/26	10	Y	N	Time Gaps	Y	--	Y	--	Y
MW107	Perimeter	Shallow	N	--	N	N/A	1/18/07	2/5/26	10	Y	N	Time Gaps	Y	--	Y	--	Y
MW108	Perimeter	Shallow	N	--	N	N/A	1/18/07	2/4/26	11	Y	N	Time Gaps	Y	--	Y	--	Y
MW109	Core	Shallow	Y	PCE	N	4/16/2007	1/18/07	11/13/25	6	Y	N	Ins. Rec.; Time Gaps	Y	--	Y	--	Y
MW110	Core	Shallow	N	--	N	N/A	1/18/07	5/23/07	2	N	N	Ins. Rec.	N	Ins. Rec.	Y	--	N
MW111/111R	Core	Shallow	Y	PCE, TCE, cis-1,2-DCE	N	11/12/25	1/18/07	2/4/26	10	Y	N	Time Gaps	Y	--	Y	--	Y
MW112A	Core	Shallow	Y	PCE, TCE, 1,1-DCE, cis-1,2-DCE, VC	Y	--	3/23/07	2/3/26	44	N	Y	--	Y	--	Y	--	Y
MW113	Perimeter	Shallow	N	--	N	N/A	2/20/07	4/15/08	6	N	N	Ins. Rec.	Y	--	Y	--	Y
MW114	Upgradient	Shallow	N	--	N	N/A	2/20/07	4/17/08	6	N	N	Ins. Rec.	Y	--	Y	--	N
MW115/115R	Upgradient	Shallow	N	--	N	N/A	3/23/07	11/13/25	9	N	N	Ins. Rec.	Y	--	Y	--	N
MW-116	Core	Shallow	Y	PCE, TCE, 1,1-DCE, cis-1,2-DCE, VC	Y	--	3/23/07	2/4/26	30	N	Y	--	Y	--	Y	--	Y
MW117D	Perimeter	Deep	N	--	N	N/A	7/19/07	2/2/26	28	N	Y	--	Y	--	Y	--	N
MW117S	Perimeter	Shallow	N	--	N	N/A	7/18/07	2/2/26	28	N	N	No detects over RL	Y	--	Y	--	N
MW117T	Perimeter	Deep	N	--	N	N/A	7/19/07	2/2/26	28	N	Y	--	Y	--	Y	--	N
MW118D	Perimeter	Deep	N	--	N	N/A	7/20/07	2/2/26	42	N	Y	--	Y	--	Y	--	Y
MW118S	Perimeter	Shallow	N	--	N	N/A	7/20/07	2/2/26	28	N	Y	--	Y	--	Y	--	N
MW118T	Perimeter	Deep	N	--	N	N/A	7/20/07	2/2/26	29	N	Y	--	Y	--	Y	--	Y
MW119S	Perimeter	Shallow	N	--	N	N/A	8/22/07	2/4/26	28	N	Y	--	Y	--	Y	--	N
MW119T	Perimeter	Deep	N	--	N	N/A	8/22/07	2/4/26	28	N	Y	--	Y	--	Y	--	Y
MW120D	Perimeter	Deep	N	--	N	N/A	8/22/07	2/4/26	28	N	Y	--	Y	--	Y	--	Y
MW120S	Perimeter	Shallow	N	--	N	N/A	8/22/07	2/4/26	28	N	Y	--	Y	--	Y	--	Y
MW121D	Perimeter	Deep	N	--	N	N/A	10/22/07	2/3/26	40	N	Y	--	Y	--	Y	--	Y
MW121S	Perimeter	Shallow	N	--	N	N/A	10/22/07	2/3/26	27	N	N	No detects over RL	Y	--	Y	--	N
MW122	Core	Shallow	Y	PCE, TCE, cis-1,2-DCE	Y	--	1/30/08	2/4/26	42	N	Y	--	Y	--	Y	--	Y
MW201	Core	Shallow	Y	PCE, TCE	N	4/15/2008	7/19/07	2/3/26	8	Y	N	Ins. Rec.; Time Gaps	Y	--	Y	--	Y
MW202	Core	Shallow	Y	PCE	N	11/12/25	7/19/07	2/3/26	28	N	Y	--	Y	--	Y	--	Y
MW203/203R	Core	Shallow	Y	PCE, TCE, cis-1,2-DCE	Y	--	7/19/07	2/3/26	6	Y	N	Ins. Rec.; Time Gaps	Y	--	Y	--	Y
MW301	Perimeter	Shallow	N	--	N	N/A	1/20/25	11/11/25	3	N	N	Ins. Rec.	N	Ins. Rec.	Y	--	N
MW401D	Core	Deep	N	--	N	N/A	11/11/25	2/3/26	2	N	N	Ins. Rec.	N	Ins. Rec.	Y	--	Y
MW401S	Core	Shallow	Y	PCE, TCE	Y	--	11/13/25	2/4/26	2	N	N	Ins. Rec.	N	Ins. Rec.	Y	--	Y
MW402	Core	Deep	N	--	N	N/A	11/11/25	2/3/26	2	N	N	Ins. Rec.	N	Ins. Rec.	Y	--	Y
MW403	Core	Deep	N	--	N	N/A	11/11/25	2/3/26	2	N	N	Ins. Rec.	N	Ins. Rec.	Y	--	Y
MW404	Core	Deep	Y	PCE	N	11/12/2025	11/12/25	2/5/26	2	N	N	Ins. Rec.	N	Ins. Rec.	Y	--	Y
MW405	Perimeter	Shallow	N	--	N	N/A	11/10/25	2/2/26	2	N	N	Ins. Rec.	N	Ins. Rec.	Y	--	N
MW406	Upgradient	Shallow	N	--	N	N/A	11/10/25	2/2/26	2	N	N	Ins. Rec.	N	Ins. Rec.	Y	--	N
MW407	Core	Shallow	Y	PCE	Y	--	1/7/26	2/4/26	2	N	N	Ins. Rec.	N	Ins. Rec.	Y	--	Y
MWCS1	Perimeter	Unknown	N	--	N	N/A	5/23/07	5/23/07	1	--	N	Ins. Rec.	N	Ins. Rec.	N	Ins. Rec.	N
SH1	Source	Shallow	Y	PCE, TCE	Y	--	8/9/04	8/9/04	1	--	N	Ins. Rec.	N	Ins. Rec.	N	Ins. Rec.	Y
SH3	Source	Shallow	Y	PCE, TCE	Y	--	8/9/04	8/9/04	1	--	N	Ins. Rec.	N	Ins. Rec.	N	Ins. Rec.	Y
SH4	Source	Shallow	Y	TCA, 1,2-DCA, PCE, TCE, 1,1-DCE	Y	--	5/25/06	5/25/06	1	--	N	Ins. Rec.	N	Ins. Rec.	N	Ins. Rec.	Y
SHMW1	Source	Shallow	Y	PCE, TCE	Y	--	7/8/02	4/12/07	5	Y	N	Ins. Rec.; Time Gaps	Y	--	Y	--	Y
SHMW2/2R	Source	Shallow	Y	PCE, TCE, cis-1,2-DCE	Y	--	7/8/02	2/5/26	14	Y	N	Time Gaps	Y	--	Y	--	Y
SH-MW3	Source	Shallow	Y	PCE, TCE, 1,1-DCE	Y	--	7/8/02	4/2/15	12	N	Y	--	Y	--	Y	--	Y
COBBLE-IR-1	Perimeter	Deep	N	--	N	N/A	6/25/07	6/25/07	1	--	N	Ins. Rec.	N	Ins. Rec.	N	Ins. Rec.	N

Total Upgradient:	4	43	
Total Perimeter:	20	12	
Ttl Core & Source:	24	3	

Total >Method 1 most recent event:	24
Total <Method 1 most recent event:	34

Total MK:	20	Total LR evals:	43	# Wells w/Trend Graphs:	53

# Wells w/Deg Prod:	44

Table G2. Groundwater Analytical Dataset Properties and Screening Summary
Monitored Natural Attenuation Evaluation
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UniFirst Corporation

Notes:

-- = Not applicable
N/A = Not applicable because CVOC data collected to date is below standards
DTB = Depth to bottom (this is a private irrigation well located at 84 Washington St.; sampled once)

1. The data included in this monitored natural attenuation evaluation correspond to the wells and sampling events currently included in the Phase V Status Reports. Other wells and data exist that correspond to third party investigations, primarily including those associated with GLX and MBTA work, which were not included in this evaluation.

2. Monitoring well location is categorized as:
   - Core (i.e., "plume interior"/within the core of the plume)
   - Perimeter (i.e., hydraulically downgradient or sidegradient, outside of plume)
   - Upgradient (i.e., "background"/hydraulically upgradient from the plume)

3. Well Depths are based on screened interval and categorized as:
   - Shallow (i.e., wells with bottom of screens 29 feet or less below grade)
   - Deep (i.e., wells with tops of screens 30 feet or more below grade)
   - Unknown (i.e., screened interval is unknown; no construction or total depth records are available)

4. CVOCs included in this MNA evaluation are:
   - Chloroethane
   - 1,1-Dichloroethane
   - 1,2-Dichloroethane
   - 1,1-Dichloroethylene
   - cis-1,2-Dichloroethylene
   - trans-1,2-Dichloroethylene
   - (together, DCE)
   - Tetrachloroethylene (PCE)
   - 1,1,1-Trichloroethane (TCA)
   - Trichloroethylene (TCE)
   - Vinyl chloride (VC)

5. Massachusetts Contingency Plan Method 1 Standards (310 CMR 40.0974) are used as screening values (SV) for individual CVOCs in this evaluation. Method 1 GW-2 standards were used to screen shallow wells and wells with unknown screened depths; Method 1 GW-3 standards were used to screen deep wells.

6. Screening criteria include number of records (i.e., number of sampling events that produced data for CVOCs subject to this evaluation) and time gaps in the dataset (i.e., lapses in sampling events that span a timeframe of 1/3 or more of the entire dataset timeframe) were considered as follows:
   - Screening criteria applicable to the Mann Kendall Evaluation are:
     - Must have at least 10 records; if less than 10 sampling events were performed, Mann Kendall was not run and "Ins. Rec." appears in this column
     - Must not have large time gaps in the data; If a time gap (as defined above) exists, Mann Kendall was not run and "Time Gaps" appears in this column
   - Screening criteria applicable to the Linear Regression Analysis are:
     - Must have at least 4 records; if 3 or fewer sampling events were performed, Linear Regression was not run and "Ins. Rec." appears in this column
   - Screening criteria applicable to Degradation Trend Graphs are:
     - Trend graphs were produced for wells with data for more than one sampling event; otherwise, a graph was not prepared and "Ins. Rec." appears in this column

7. PCE degradation products include TCE, DCE, VC, ethene, ethane, and methane.

Table G3. Summary of Groundwater Natural Attenuation Evaluation Outcomes
Monitored Natural Attenuation Evaluation
50 Tufts Street, Somerville, Massachusetts
UniFirst Corporation

Well ID	Location[1]	Depth Category[2]	Well Status	PCE Screening Level[3]	Start Date of Dataset	End Date of Dataset	Number of Records	Max. PCE Conc. (ug/L)	Date of Max. PCE Conc.	Most Recent PCE Conc (ug/L)	Any CVOC[4] Conc. > Method 1s[3] at least once?	Date of Last Method 1 Exceedance[3]	Mann Kendall Evaluation PCE Trend[5]	Linear Regression Analysis PCE Trend[6]	Projected Year to meet PCE Method 1 based on Linear Regression Analysis (actual dates in parentheses, where avail/appl)	PCE Degradation Products Present (TCE, DCE, VC, ethene, ethane, methane)?	Outcome
GEO1	Source	Shallow	Existing	20	8/16/2004	2/5/2026	30	48,500	4/12/2007	12	Y	11/13/2025	Decreasing	Decreasing	2024 (2026)	Y	Historically PCE >>SLs; latest PCE data <SLs; significant reduction in PCE over time; decreasing trends (PCE, tCE, and tCA); degradation occurring; additional sampling implemented in 2025 to monitor trend
GEO2	Source	Shallow	Existing	20	8/16/2004	2/3/2026	28	1,420	1/17/2007	170	Y	2/3/2026	Decreasing	Decreasing	2039	Y	Significant reduction in PCE over time; decreasing trends; degradation occurring; additional sampling implemented in 2025 to monitor trend
GEO3	Core	Shallow	Former	20	8/16/2004	4/13/2007	5	4,020	8/16/2004	93	Y	4/13/2007	--	Decreasing (NS)	--	Y	Destroyed/decommissioned; available dataset indicates degradation occurring
GEO4	Core	Shallow	Existing	20	8/16/2004	2/5/2026	9	24,100	10/4/2006	5800	Y	2/5/2026	--	Decreasing	2173	Y	Historically PCE >>SLs; significant reduction in PCE over time; decreasing trend per LR; degradation occurring but PCE still >SLs; additional sampling implemented in 2025 to monitor trend
GEO5	Core	Shallow	Existing	20	8/16/2004	2/5/2026	9	14,400	8/16/2004	2300	Y	2/5/2026	--	No Trend	--	Y	Likely related to GLX dewatering; degradation occurring but PCE still >SL; additional sampling implemented in 2025 to monitor trend
GEO6	Core	Shallow	Existing	20	8/16/2004	2/3/2026	9	2500	11/12/2025	1600	Y	2/3/2026	--	Increasing	--	Y	Increasing trend likely result of plume movement due to GLX dewatering; additional sampling implemented in 2025 to monitor trend
MW1	Source	Unknown	Former	20	7/1/2002	4/17/2007	5	74,900	1/17/2007	49,600	Y	4/17/2007	--	No Trend	--	Y	Destroyed/decommissioned; degradation occurring based on detection of degradation products, but no recent sampling; monitoring at nearby wells GEO-1 & -2 suggest decreasing trends and significant reductions in concentrations over time
MW3	Source	Unknown	Former	20	7/1/2002	10/16/2009	12	51,900	1/17/2007	391	Y	10/16/2009	Decreasing	Decreasing	2013	Y	Destroyed/decommissioned; historically PCE >>SL; significant reduction in PCE over time; decreasing trends indicated by M-K and LR; degradation occurring but still >SL and no recent sampling; monitoring at nearby wells GEO-4 & MW109 suggest decreasing trends (significant reductions observed in GEO-4 over time)
MW101	Core	Shallow	Former	20	5/24/2006	4/13/2007	5	192	1/17/2007	91	Y	4/13/2007	--	Decreasing (NS)	--	Y	Destroyed/decommissioned; no recent sampling but available dataset indicates degradation occurring; decreasing trend per LR; monitoring at nearby wells GEO-1 & -2 suggest decreasing trends and significant reductions in concentrations over time
MW102	Core	Shallow	Existing	20	5/24/2006	2/3/2026	12	898	10/5/2006	66	Y	2/3/2026	--	Decreasing	2025	Y	Decreasing trend per LR; additional recent sampling confirms trends; degradation occurring but >SL
MW103	Core	Shallow	Existing	20	5/24/2006	2/3/2026	10	2600	5/24/2006	48	Y	2/3/2026	--	Decreasing	2029	Y	Decreasing trend per LR; additional sampling implemented in 2025 to confirm trends; degradation occurring but still >SL
MW104	Core	Shallow	Former	20	5/23/2006	4/4/2018	23	160	10/5/2006	10.7	Y	4/4/2018	Decreasing	Decreasing	2010 (2009)	Y	Destroyed; no recent data but available dataset indicates degradation; decreasing trends and PCE conc. <SL for a span of >8 years
MW104R	Core	Shallow	Existing	20	4/4/2024	2/3/2026	7	2200	4/4/2024	420	Y	2/3/2026	--	Decreasing (NS)	--	Y	Likely related to GLX dewatering; potentially decreasing LR trend
MW105	Upgradient	Shallow	Former	20	5/24/2006	4/23/2013	18	7.8	5/24/2006	0.53	N	None	No Trend	Decreasing	N/A	Y	Destroyed/decommissioned; upgradient well w/no impact >SLs based on available data
MW106	Perimeter	Shallow	Existing	20	1/18/2007	2/3/2026	10	2.3	7/19/2007	ND	N	None	--	No Trend	N/A	Y	Perimeter well always <SL; stable PCE & decreasing tCE trend (but with recent increase in TCE conc. from 1.2 in 2008 to 2.4 ppb in 2026)
MW107	Perimeter	Shallow	Existing	20	1/18/2007	2/4/2026	10	ND	--	ND	N	None	--	No Trend	N/A	Y	Perimeter well w/no impact
MW108	Perimeter	Shallow	Existing	20	1/18/2007	2/4/2026	11	ND	--	ND	N	None	--	No Trend	N/A	Y	Perimeter well w/no impact
MW109	Core	Shallow	Existing	20	1/18/2007	11/13/2025	6	178	1/18/2007	17	Y	4/16/2007	--	Decreasing	2016 (2008)	Y	Latest PCE data <SL; decreasing trend per LR; degradation occurring; implemented additional sampling in 2025 confirms trend
MW110	Core	Shallow	Existing	20	1/18/2007	4/17/2007	2	0.93	4/17/2007	0.93	N	None	--	--	N/A	N	Insufficient records for eval (two data points); near GLX vault, but not sampled since 2007; well believed to screen a perched groundwater zone because no CVOC detections despite core location in plume and data from surrounding wells
MW111/MW111R	Core	Shallow	Existing	20	1/18/2007	2/4/2026	10	13,700	1/18/2007	4.5	Y	11/12/2025	--	Decreasing	2026 (2026)	Y	Latest PCE data <SL; decreasing trend per LR; additional sampling in 2025 confirm trends and projected timing to meet SLs
MW112A	Core	Shallow	Existing	20	3/23/2007	2/3/2026	44	908	11/10/2017	420	Y	2/3/2026	Increasing	Increasing	--	Y	Trend monitoring will continue
MW113	Perimeter	Shallow	Former	20	2/20/2007	4/15/2008	6	0.42	10/10/2007	ND	N	None	--	No Trend	N/A	Y	Destroyed/decommissioned; upgradient well w/ no impact based on available data
MW114	Upgradient	Shallow	Former	20	2/20/2007	4/17/2008	6	ND	--	ND	N	None	--	No Trend	N/A	N	Destroyed/decommissioned; upgradient well w/ no impact based on available data
MW115/115R	Upgradient	Shallow	Existing	20	3/23/2007	11/13/2025	9	ND	--	ND	N	None	--	No Trend	N/A	N	Upgradient well w/no impact
MW116	Core	Shallow	Existing	20	3/23/2007	2/4/2026	30	1180	3/23/2007	185	Y	2/4/2026	Decreasing	Decreasing	2075	Y	Decreasing trends (variable data 2007-2008 but decreasing trend since 2009); implemented additional sampling in 2025 to confirm trends and projected timing to meet SLs
MW117D	Perimeter	Deep	Existing	30,000	7/19/2007	2/2/2026	28	0.54	7/19/2007	ND	N	None	No Trend	No Trend	N/A	N	Perimeter well w/ max. detection 0.54 ppb PCE; <SL
MW117S	Perimeter	Shallow	Existing	20	7/18/2007	2/2/2026	28	ND	--	ND	N	None	--	No Trend	N/A	N	Perimeter well w/no impact
MW117T	Perimeter	Deep	Existing	30,000	7/19/2007	2/2/2026	28	1.3	4/15/2019	ND	N	None	No Trend	No Trend	N/A	N	Perimeter well w/ one detection in 28 events (1.3 ppb PCE; <SL)
MW118D	Perimeter	Deep	Existing	30,000	7/20/2007	2/2/2026	42	50	4/28/2016	ND	N	None	Decreasing	Decreasing (NS)	N/A	Y	Perimeter deep well w/ max. detection 50 ppb PCE; <SL
MW118S	Perimeter	Shallow	Existing	20	7/20/2007	2/2/2026	28	0.39	7/20/2007	ND	N	None	No Trend	No Trend	N/A	N	Perimeter well w/ max. detection 0.39 ppb PCE; <SL
MW118T	Perimeter	Deep	Existing	30,000	7/20/2007	2/2/2026	29	3.8	8/30/2007	ND	N	None	Decreasing	Decreasing	N/A	Y	Perimeter deep well w/ max. detection 3.8 ppb PCE; <SL
MW119S	Perimeter	Shallow	Existing	20	8/22/2007	2/4/2026	28	1.5	4/22/2011	ND	N	None	No Trend	No Trend	N/A	N	Perimeter deep well w/ max. detection 1.5 ppb PCE; <SL
MW119T	Perimeter	Deep	Existing	30,000	8/22/2007	2/4/2026	28	105	10/12/2007	28	N	None	Decreasing	Decreasing	N/A	Y	Perimeter deep well w/ max. detection 105 ppb PCE; <SL
MW120D	Perimeter	Deep	Existing	30,000	8/22/2007	2/4/2026	28	131	4/16/2008	11	N	None	Decreasing	Decreasing	N/A	Y	Perimeter deep well w/ max. detection 131 ppb PCE; <SL
MW120S	Perimeter	Shallow	Existing	20	8/22/2007	2/4/2026	28	0.97	1/15/2008	ND	N	None	No Trend	No Trend	N/A	Y	Perimeter well w/ max. detection 0.97 ppb PCE; <SL

Table G3. Summary of Groundwater Natural Attenuation Evaluation Outcomes
Monitored Natural Attenuation Evaluation
50 Tufts Street, Somerville, Massachusetts
UniFirst Corporation

Well ID	Location[1]	Depth Category[2]	Well Status	PCE Screening Level[3]	Start Date of Dataset	End Date of Dataset	Number of Records	Max. PCE Conc. (ug/L)	Date of Max. PCE Conc.	Most Recent PCE Conc (ug/L)	Any CVOC[4] Conc. > Method 1s[3] at least once?	Date of Last Method 1 Exceedance[3]	Mann Kendall Evaluation PCE Trend[5]	Linear Regression Analysis PCE Trend[6]	Projected Year to meet PCE Method 1 based on Linear Regression Analysis (actual dates in parentheses, where avail/appl)	PCE Degradation Products Present (TCE, DCE, VC, ethene, ethane, methane)?	Outcome
MW121D	Perimeter	Deep	Existing	30,000	10/22/2007	2/3/2026	40	356	4/16/2012	9.9	N	None	Decreasing	Decreasing	N/A	Y	Perimeter deep well w/ max. detection 356 ppb PCE; <SL
MW121S	Perimeter	Shallow	Existing	20	10/22/2007	2/3/2026	27	ND	--	ND	N	None	--	No Trend	N/A	N	Perimeter well w/no impact
MW122	Core	Shallow	Existing	20	1/30/2008	2/4/2026	42	1700	4/17/2023	90	Y	2/4/2026	Increasing	No Trend	--	Y	Recent (2025/2026) PCE results have decreased relative to prior; trend monitoring will continue
MW201	Core	Shallow	Existing	20	7/19/2007	2/3/2026	8	26	1/11/2008	8.5	Y	4/15/2008	--	Decreasing (NS)	N/A	Y	PCE <SL; decreasing trend per LR; degradation occurring; trendline is below SL
MW202	Core	Shallow	Existing	20	7/19/2007	2/3/2026	28	87	4/22/2011	20	Y	11/12/2025	Decreasing	Decreasing	2020 (2026)	Y	PCE currently <SL; decreasing trend; degradation occurring
MW203/203R	Core	Shallow	Existing	20	7/19/2007	2/3/2026	6	15,500	7/19/2007	5500	Y	2/3/2026	--	Decreasing	2143	Y	Significant reductions in PCE based on available data but still >SL; likely related to GLX dewatering; insufficient records for M-K; implemented additional sampling in 2025 to monitor trend
MW301	Perimeter	Shallow	New (2025)	20	1/20/2025	11/11/2025	2	ND	--	ND	N	None	--	--	--	N	Perimeter well w/no impact
MW401D	Core	Deep	Existing	30000	11/11/2025	2/3/2026	2	12,000	11/13/2025	2300	N	None	--	--	--	Y	
MW401S	Core	Shallow	Existing	20	11/13/2025	2/4/2026	2	440	11/13/2025	76	Y	2/4/2026	--	--	--	Y	
MW402	Core	Deep	Existing	30000	11/11/2025	2/3/2026	2	290	11/11/2025	140	N	None	--	--	--	Y	
MW403	Core	Deep	Existing	30000	11/11/2025	2/3/2026	2	1,400	2/3/2026	1400	N	None	--	--	--	Y	
MW404	Core	Deep	Existing	30000	11/12/2025	2/5/2026	2	44,500	11/12/2025	25,500	Y	11/12/2025	--	--	--	Y	
MW405	Perimeter	Shallow	Existing	20	11/10/2025	2/2/2026	2	ND	--	ND	N	None	--	--	--	N	
MW406	Upgradient	Shallow	Existing	20	11/10/2025	2/2/2026	2	ND	--	ND	N	None	--	--	--	N	
MW407	Core	Shallow	Existing	20	1/7/2026	2/4/2026	2	40	1/7/2026	38	Y	2/4/2026	--	--	--	Y	
MWCS1	Perimeter	Unknown	Existing	20	5/23/2007	5/23/2007	1	ND	--	ND	N	None	--	--	N/A	N	Perimeter well w/no PCE detects
SH1	Source	Shallow	Existing	20	8/9/2004	8/9/2004	1	49,700	8/9/2004	49,700	Y	8/9/2004	--	--	--	Y	Inside 50 Tufts St building; SSDS in place
SH3	Source	Shallow	Existing	20	8/9/2004	8/9/2004	1	19,500	8/9/2004	19,500	Y	8/9/2004	--	--	--	Y	Inside 50 Tufts St building; SSDS in place
SH4	Source	Shallow	Existing	20	5/25/2006	5/25/2006	1	7240	5/25/2006	7240	Y	5/25/2006	--	--	--	Y	Inside 50 Tufts St building; SSDS in place
SHMW1	Source	Shallow	Former	20	7/8/2002	4/12/2007	5	48,900	4/12/2007	48,900	Y	4/12/2007	--	Increasing	--	Y	Destroyed/decommissioned; monitoring at nearby wells GEO-4 & MW-109 suggest steady to decreasing trends under current condtions
SHMW2/2R	Source	Shallow	Existing	20	7/8/2002	2/5/2026	14	7190	10/4/2006	3900	Y	2/5/2026	--	No Trend	--	Y	Likely related to GLX dewatering; PCE currently >SL; steady per LR; degradation occurring; additional sampling implemented to monitor trend
SHMW3	Source	Shallow	Former	20	7/8/2002	4/2/2015	12	34,000	4/12/2007	12,800	Y	4/2/2015	Decreasing	Decreasing	2087	Y	Destroyed/decommissioned; available data indicates degradation occurring; monitoring occurring at nearby wells SH-MW2, GEO-4 & -5 indicate decreasing trends
COBBLE-IR-1	Perimeter	Deep	Unknown	30,000	6/25/2007	6/25/2007	1	ND	--	ND	N	None	--	--	N/A	N	300' deep irrigation well on 84 Washington St w/ no impacts

# Decreasing:	12	23
# Steady:	6	17
# Increasing:	2	3

Notes:

N/A = Not applicable because data is below standards and/or entire calculated trendline is below standards
NA = Natural attenuation
ND = Not detected
NS = Statistically non-significant
-- = Not applicable because the outcome cannot be calculated (e.g., dataset doesn't meet criteria to run evaluation, or the calculated trend conditions do not allow for a prediction)

1. Monitoring well location is categorized as:
   - Source (i.e., within the release area on 50 Tufts Street; these wells are also considered to be within the core ["plume interior"])
   - Core (i.e., "plume interior"/within the core of the plume; Source wells are a subset of these Core wells)
   - Perimeter (i.e., hydraulically downgradient or sidegradient, outside of plume)
   - Upgradient (i.e., "background"/hydraulically upgradient from the plume)
2. Well Depths are based on screened interval and categorized as:
   - Shallow (i.e., wells with bottom of screens 29 feet or less below grade)
   - Deep (i.e., wells with tops of screens 30 feet or more below grade)
   - Unknown (i.e., screened interval is unknown; no construction or total depth records are available, assumed to be shallow)
3. Massachusetts Contingency Plan Method 1 Standards (310 CMR 40.0974) are used as screening values (SV) for individual CVOCs in this evaluation; Method 1 GW-2 standards were used to screen shallow wells and Method 1 GW-3 standards were used to screen deep wells (wells with unknown screen depths - MW-1 and MW-3 - are conservatively assumed to be shallow)
4. CVOCs included evaluation are:
   - Chloroethane
   - 1,1-Dichloroethane
   - 1,2-Dichloroethane
   - 1,1-Dichloroethylene
   - cis-1,2-Dichloroethylene
   - trans-1,2-Dichloroethylene
   - Tetrachloroethylene (PCE)
   - 1,1,1-Trichloroethane (TCA)
   - Trichloroethylene (TCE)
   - Vinyl chloride (VC)
5. Trends summarized herein are based on the Mann Kendall Evaluation's trend outcome for PCE
6. Trends summarized herein are based on the linear regression analysis' trend outcome for PCE, regardless of statistical significance
7. Color coding:
   Shading represents qualitative understanding of the degradation conditions at each well, with green representing wells that have already met standards or expected to meet them within a reasonable timeframe; yellow representing uncertain conditions/timing, or increasing trend with known reason; and red representing locations with increasing trends under both Mann Kendall and Linear Regression evaluations. No color indicates that insufficient data exist (i.e., three or less records) and no trend inferences can be made.

Attachment 1 Degradation Evaluation

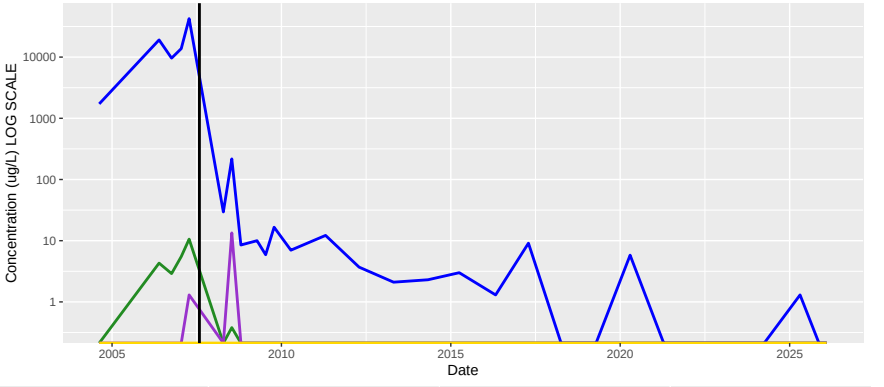
GEO−1 Chlorinated
Ethane Concentrations vs. Time

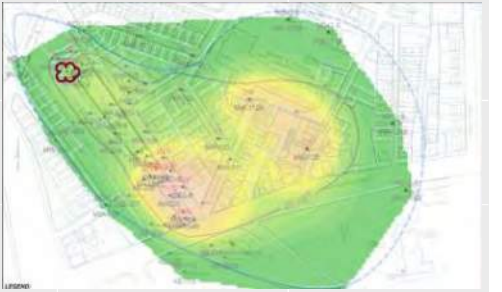
Analytes: 1,1−Dichloroethane (1,1−DCA); 1,2−Dichloroethane (1,2−DCA); 1,1,1−Trichloroethane (TCA); Chloroethane (CA)

Concentration (ug/L)

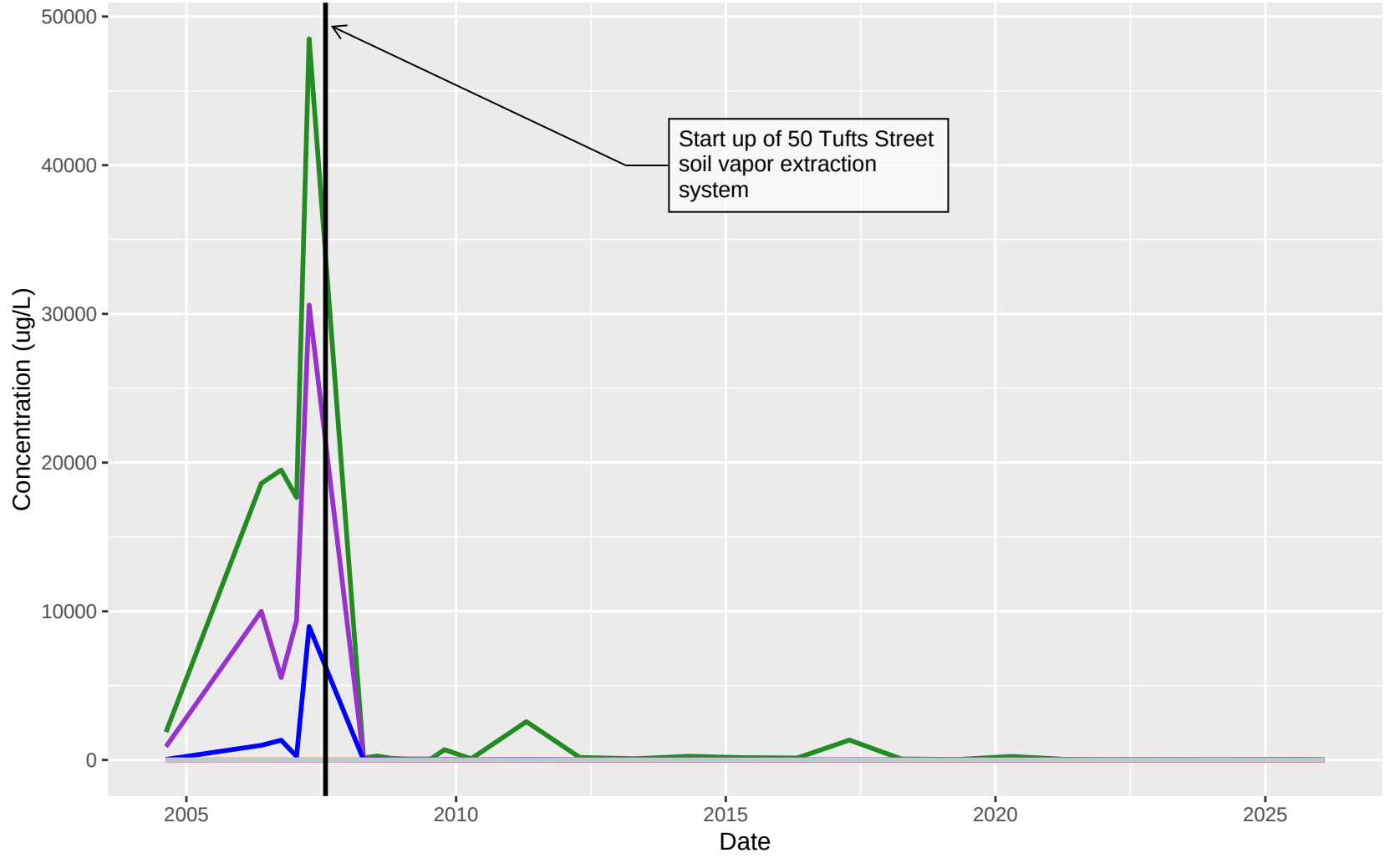
Start up of 50 Tufts Street soil vapor extraction system

Date



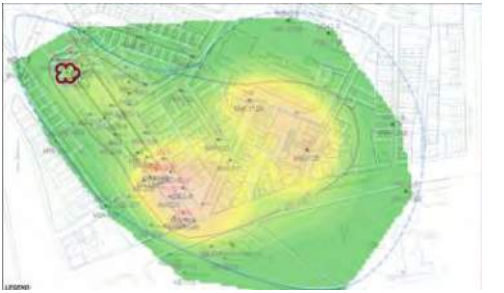


GEO−1 Chlorinated Ethene Concentrations vs. Time



Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



GEO−2 Chlorinated
Ethene Concentrations vs. Time

Start up of 50 Tufts Street soil vapor extraction system

Concentration (ug/L)

1000

500

0

2005

2010

2015

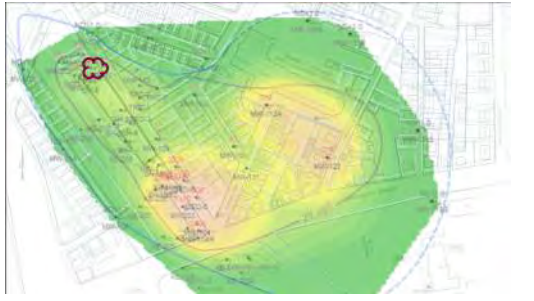
2020

2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



GEO−3 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

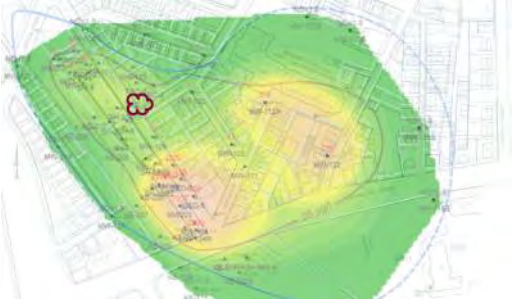
4000
3000
2000
1000
0

2005
2006
2007

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



GEO−4 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

25000
20000
15000
10000
5000
0

2005
2010
2015
2020
2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

GEO−5 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

15000
10000
5000
0

2005
2010
2015
2020
2025

Date

Time span of GLX de-watering system

Construction of stormwater vault complete

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

GEO−6 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

2500
2000
1500
1000
500
0

2005
2010
2015
2020
2025

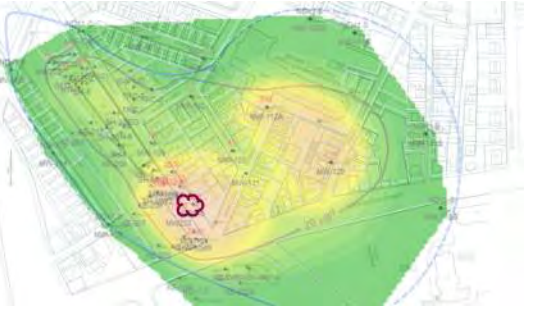
Date

Time span of GLX de-watering system

Construction of stormwater vault complete

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW−1 Chlorinated
Ethane Concentrations vs. Time

Analytes: 1,1−Dichloroethane (1,1−DCA); 1,2−Dichloroethane (1,2−DCA); 1,1,1−Trichloroethane (TCA); Chloroethane (CA)

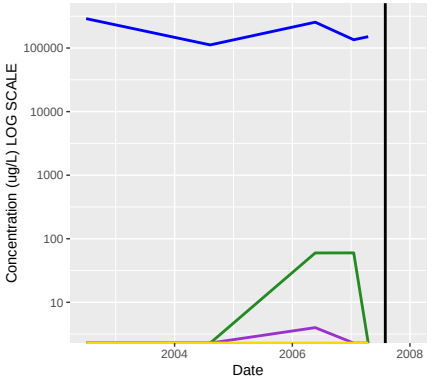
Concentration (ug/L)

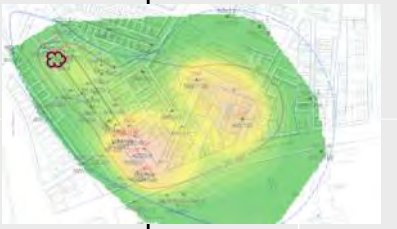
300000
200000
100000
0

2004
2006
2008

Date

Start up of 50 Tufts Street soil vapor extraction system





MW1 Chlorinated
Ethene Concentrations vs. Time

Start up of 50 Tufts Street soil vapor extraction system

Concentration (ug/L)

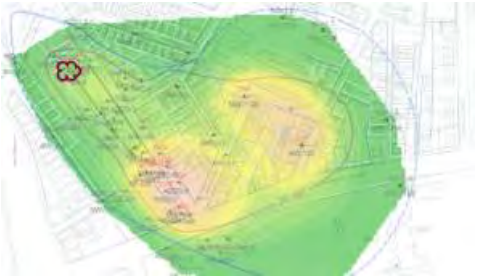
200000
150000
100000
50000
0

2004
2006
2008

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW−3 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

50000
40000
30000
20000
10000
0

Start up of 50 Tufts Street soil vapor extraction/sub-slab depressurization system

2004
2006
2008
2010

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

MW−101 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

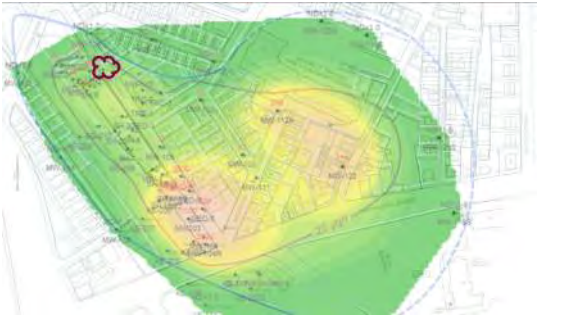
200
150
100
50
0

Jul 2006
Oct 2006
Jan 2007
Apr 2007

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW−102 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

750

500

250

0

2010

2015

2020

2025

Date

Analytes

Tetrachloroethylene (PCE)

Trichloroethylene (TCE)

1,1−Dichloroethylene (1,1−DCE)

cis−1,2−Dichloroethylene (cis−1,2−DCE)

trans−1,2−Dichloroethylene (trans−1,2−DCE)

Vinyl chloride (VC)

MW−103 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

2000

1000

0

2010

2015

2020

2025

Date

Analytes

Tetrachloroethylene (PCE)

Trichloroethylene (TCE)

1,1−Dichloroethylene (1,1−DCE)

cis−1,2−Dichloroethylene (cis−1,2−DCE)

trans−1,2−Dichloroethylene (trans−1,2−DCE)

Vinyl chloride (VC)

MW−104 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

400
300
200
100
0

2010
2015

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

MW−104R Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

2000
1500
1000
500
0

Jul 2024
Jan 2025
Jul 2025
Jan 2026

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

MW−105 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

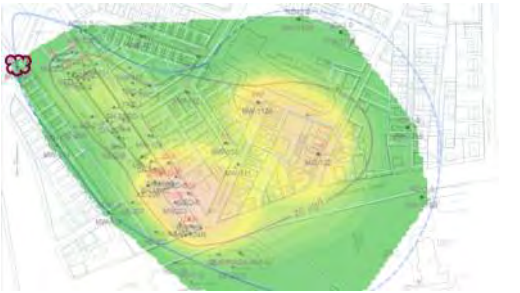
8
6
4
2
0

2008
2010
2012

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW−106 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

6
4
2
0

2010
2015
2020
2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

MW−107 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

3
2
1
0

2010
2015
2020
2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

MW−108 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

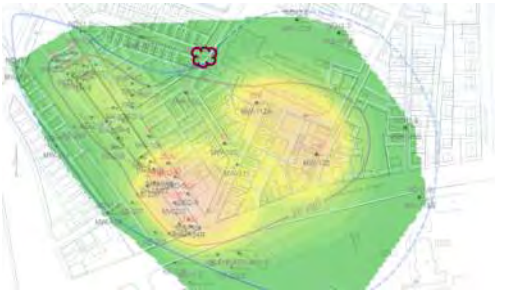
0.6
0.4
0.2
0.0

2010
2015
2020
2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW−109 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

150
100
50
0

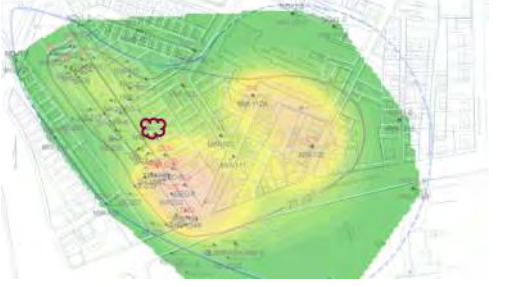
Start up of 50 Tufts Street soil vapor extraction/sub-slab depressurization system

2010
2015
2020
2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW−110 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

0.75
0.50
0.25
0.00

Feb 2007
Mar 2007
Apr 2007

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

MW−111 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

10000

5000

0

Jan 2010

Jan 2015

Jan 2020

Jan 2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

MW−112A Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

750
500
250
0

2010
2015
2020
2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

MW−113 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

0.0
0.2
0.4
0.6
0.8

Apr 2007
Jul 2007
Oct 2007
Jan 2008
Apr 2008

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

MW−114 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

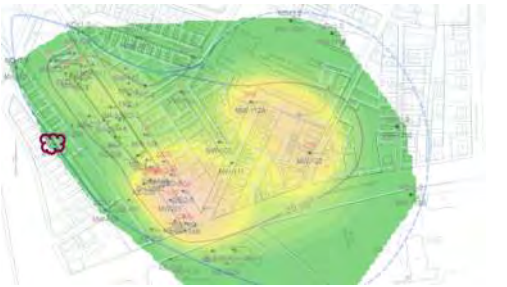
0.050
0.025
0.000
−0.025
−0.050

Apr 2007
Jul 2007
Oct 2007
Jan 2008
Apr 2008

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW−115/115R Chlorinated
Ethene Concentrations vs. Time

0.050
0.025
0.000
−0.025
−0.050
Concentration (ug/L)

2010
2015
2020
2025
Date

Analytes
Tetrachloroethylene (PCE)
Trichloroethylene (TCE)
1,1−Dichloroethylene (1,1−DCE)
cis−1,2−Dichloroethylene (cis−1,2−DCE)
trans−1,2−Dichloroethylene (trans−1,2−DCE)
Vinyl chloride (VC)

MW−116 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

1200
900
600
300
0

2010
2015
2020
2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

MW−117D Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

0.4

0.2

0.0

2010

2015

2020

2025

Date

Analytes

Tetrachloroethylene (PCE)

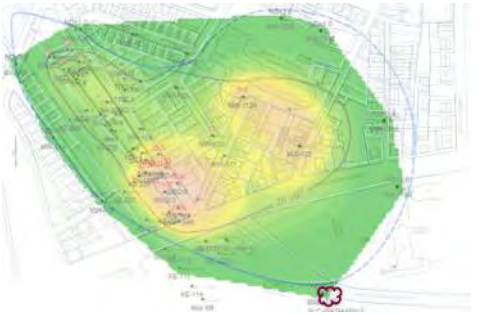
Trichloroethylene (TCE)

1,1−Dichloroethylene (1,1−DCE)

cis−1,2−Dichloroethylene (cis−1,2−DCE)

trans−1,2−Dichloroethylene (trans−1,2−DCE)

Vinyl chloride (VC)



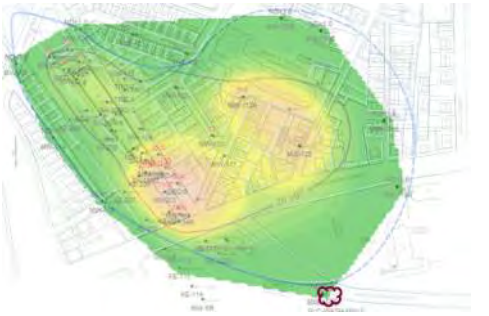
MW−117S Chlorinated
Ethene Concentrations vs. Time

0.050
0.025
0.000
−0.025
−0.050
Concentration (ug/L)

2010
2015
2020
2025
Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW−117T Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

1.0

0.5

0.0

2010

2015

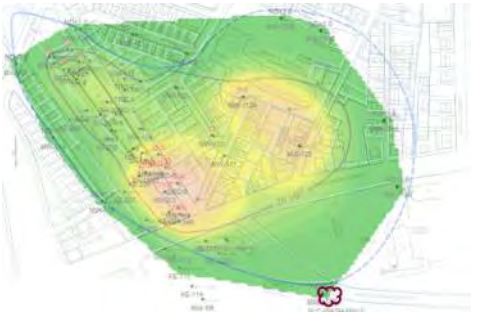
2020

2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW−118D Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

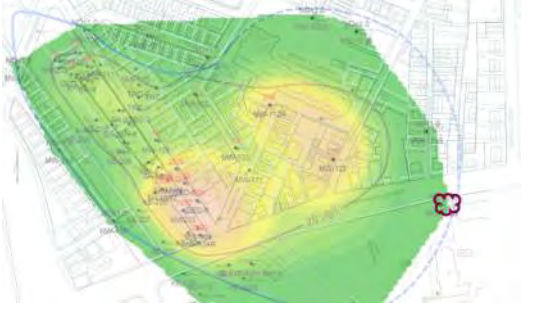
60
40
20
0

2010
2015
2020
2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW−118S Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

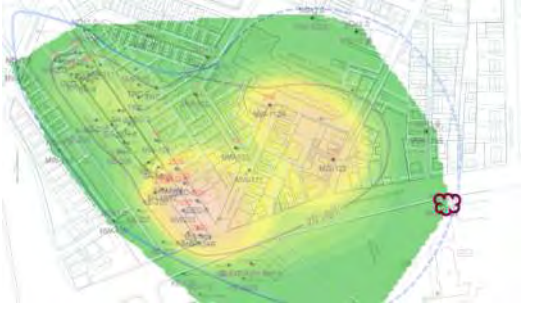
0.4
0.3
0.2
0.1
0.0

2010
2015
2020
2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW−118T Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

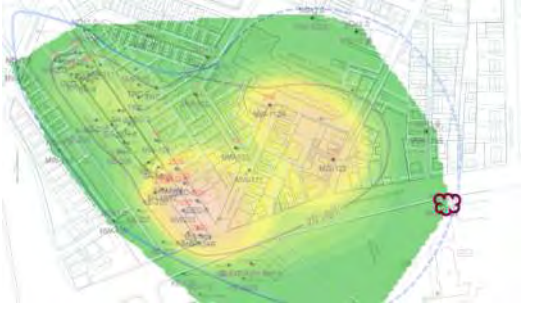
3
2
1
0

2010
2015
2020
2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW−119S Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

1.5
1.0
0.5
0.0

2010
2015
2020
2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

MW−119T Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

100
75
50
25
0

2010
2015
2020
2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

MW−120D Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

100

50

0

2010

2015

2020

2025

Date

Analytes

Tetrachloroethylene (PCE)

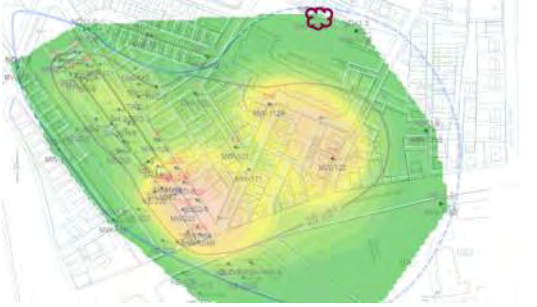
Trichloroethylene (TCE)

1,1−Dichloroethylene (1,1−DCE)

cis−1,2−Dichloroethylene (cis−1,2−DCE)

trans−1,2−Dichloroethylene (trans−1,2−DCE)

Vinyl chloride (VC)



MW−120S Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

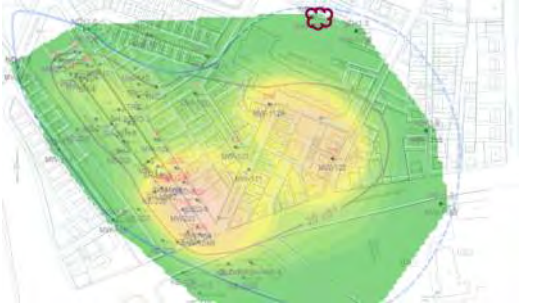
1.00
0.75
0.50
0.25
0.00

2010
2015
2020
2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW−121D Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

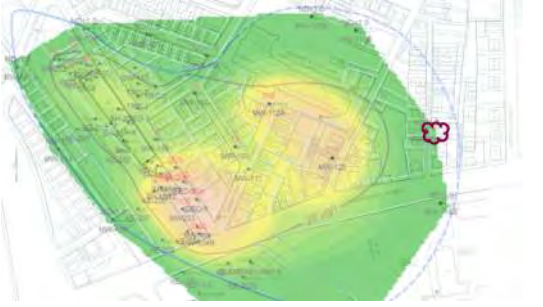
400
300
200
100
0

2010
2015
2020
2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW−121S Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

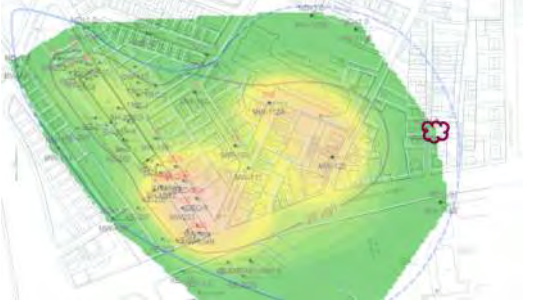
0.050
0.025
0.000
−0.025
−0.050

2010
2015
2020
2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW−122 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

1500

1000

500

0

2010

2015

2020

2025

Date

Analytes

Tetrachloroethylene (PCE)

Trichloroethylene (TCE)

1,1−Dichloroethylene (1,1−DCE)

cis−1,2−Dichloroethylene (cis−1,2−DCE)

trans−1,2−Dichloroethylene (trans−1,2−DCE)

Vinyl chloride (VC)

MW−201 Chlorinated
Ethene Concentrations vs. Time

Start up of 50 Tufts Street soil vapor extraction system

Concentration (ug/L)

20

10

0

2010

2015

2020

2025

Date

Analytes

Tetrachloroethylene (PCE)

Trichloroethylene (TCE)

1,1−Dichloroethylene (1,1−DCE)

cis−1,2−Dichloroethylene (cis−1,2−DCE)

trans−1,2−Dichloroethylene (trans−1,2−DCE)

Vinyl chloride (VC)

MW−202 Chlorinated
Ethene Concentrations vs. Time

Start up of 50 Tufts Street soil vapor extraction system

Concentration (ug/L)

75
50
25
0

2010
2015
2020
2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

MW−203/203R Chlorinated Ethene Concentrations vs. Time

Time span of GLX de-watering system

Installation of MW-203R

Construction of stormwater vault complete

Concentration (ug/L)

15000

10000

5000

0

2010

2015

2020

2025

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

MW301 Chlorinated
Ethene Concentrations vs. Time

0.050
0.025
0.000
−0.025
−0.050

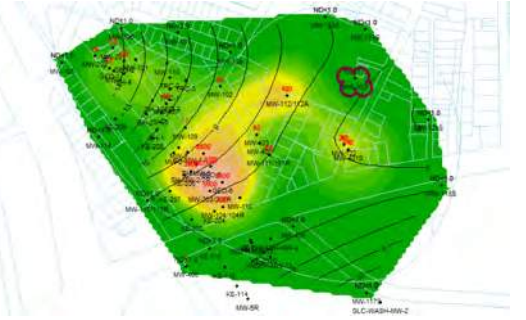
Concentration (ug/L)

Apr 25
Jul 25
Oct 25

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW401S Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

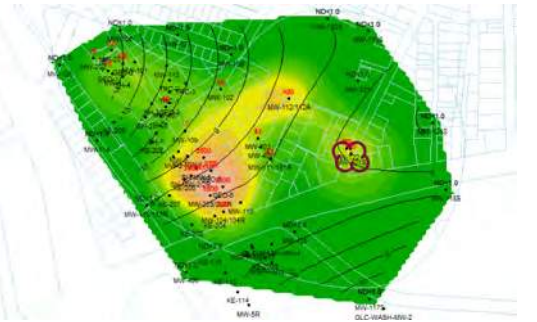
400
300
200
100
0

Dec 25
Jan 26
Feb 26

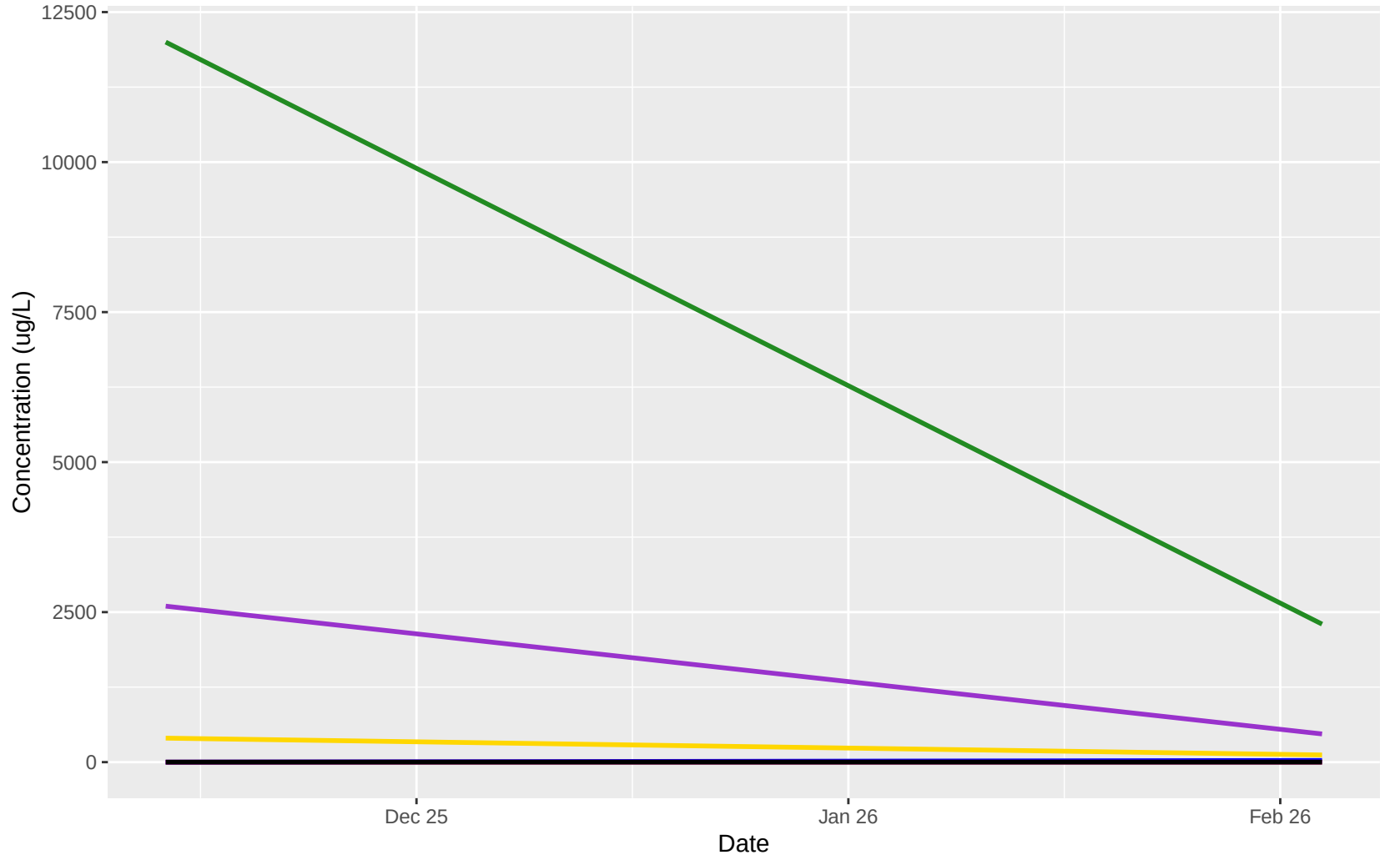
Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

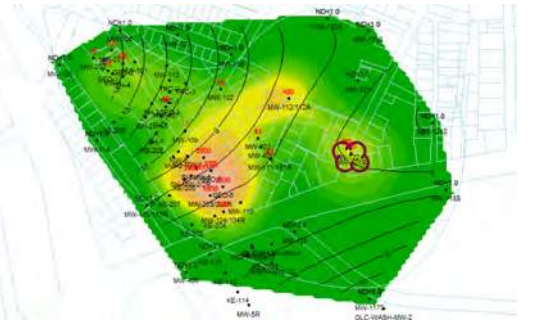


MW401D Chlorinated Ethene Concentrations vs. Time



Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW402 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

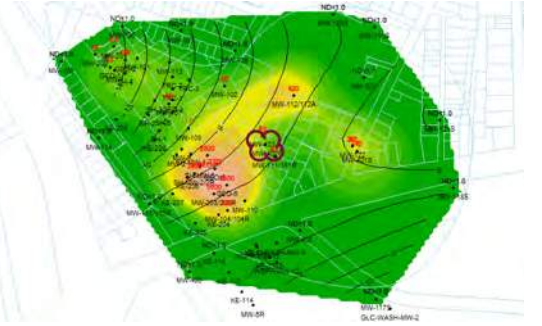
300
200
100
0

Dec 25
Jan 26
Feb 26

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW403 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

1000

500

0

Dec 25

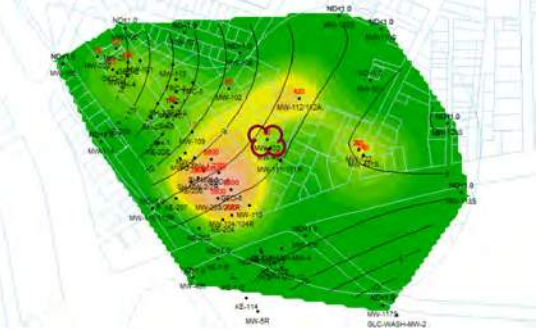
Jan 26

Feb 26

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW404 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

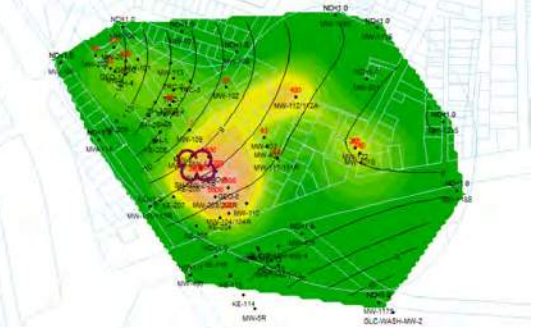
40000
30000
20000
10000
0

Dec 25
Jan 26
Feb 26

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



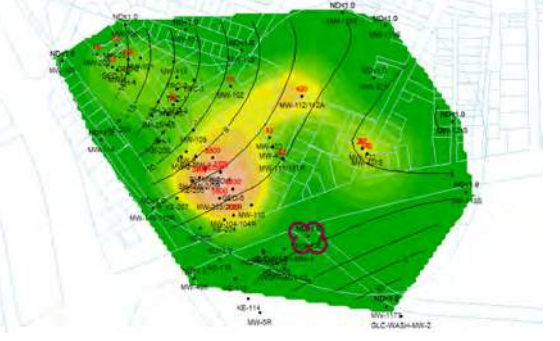
MW405 Chlorinated
Ethene Concentrations vs. Time

0.050
0.025
0.000
−0.025
−0.050
Concentration (ug/L)

Dec 25
Jan 26
Feb 26
Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW406 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

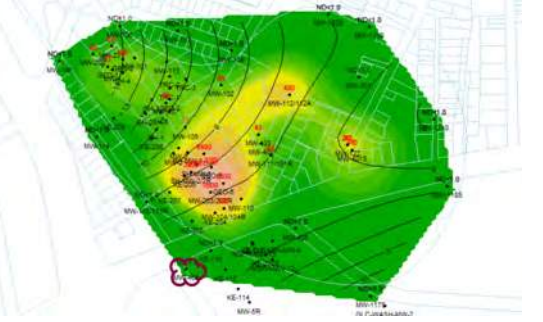
1.00
0.75
0.50
0.25
0.00

Dec 25
Jan 26
Feb 26

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



MW407 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

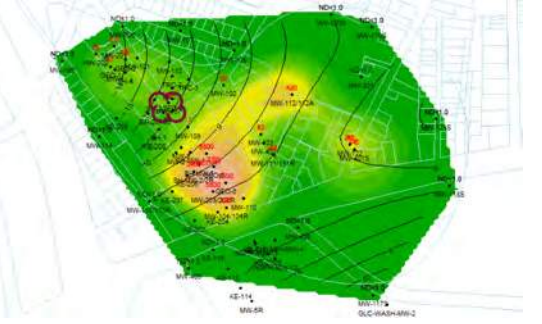
40
30
20
10
0

Jan 26
Jan 26
Jan 26
Feb 26

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



SH−MW1 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

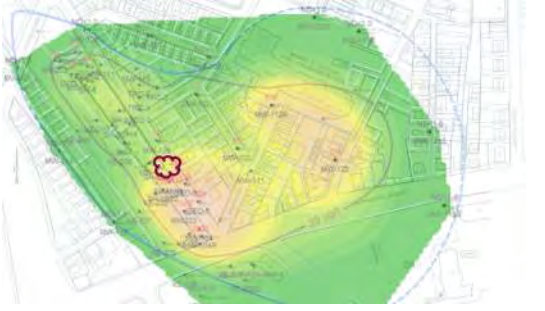
50000
40000
30000
20000
10000
0

2003
2004
2005
2006
2007

Date

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



SH−MW2/2R Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

6000
4000
2000
0

2005
2010
2015
2020
2025

Date

Time span of GLX de-watering system

Construction of stormwater vault complete

Analytes

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)

SH−MW3 Chlorinated
Ethene Concentrations vs. Time

Concentration (ug/L)

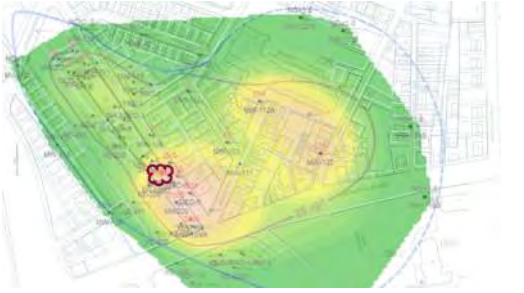
30000
20000
10000
0

2005
2010
2015

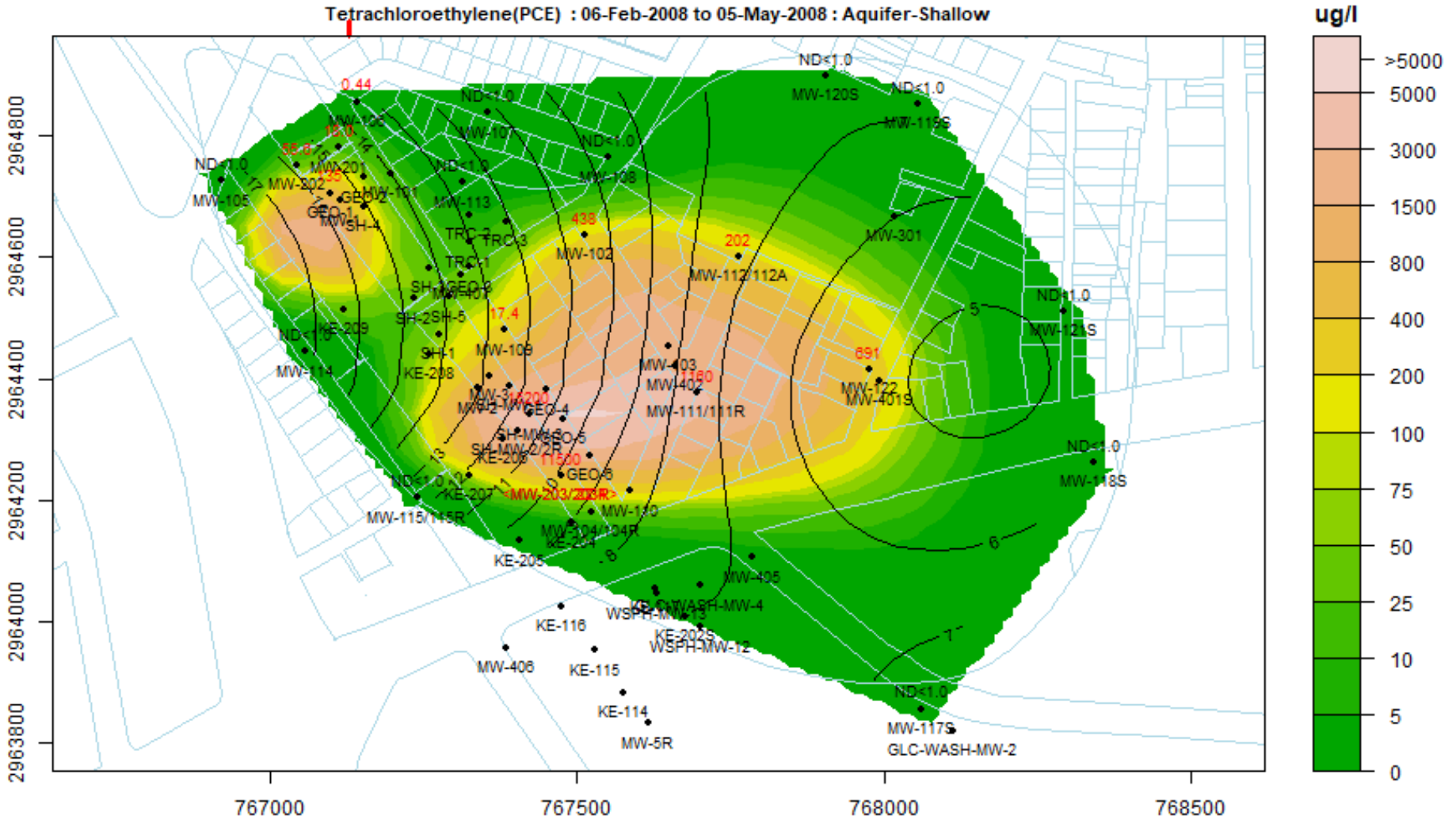
Date

Analytes

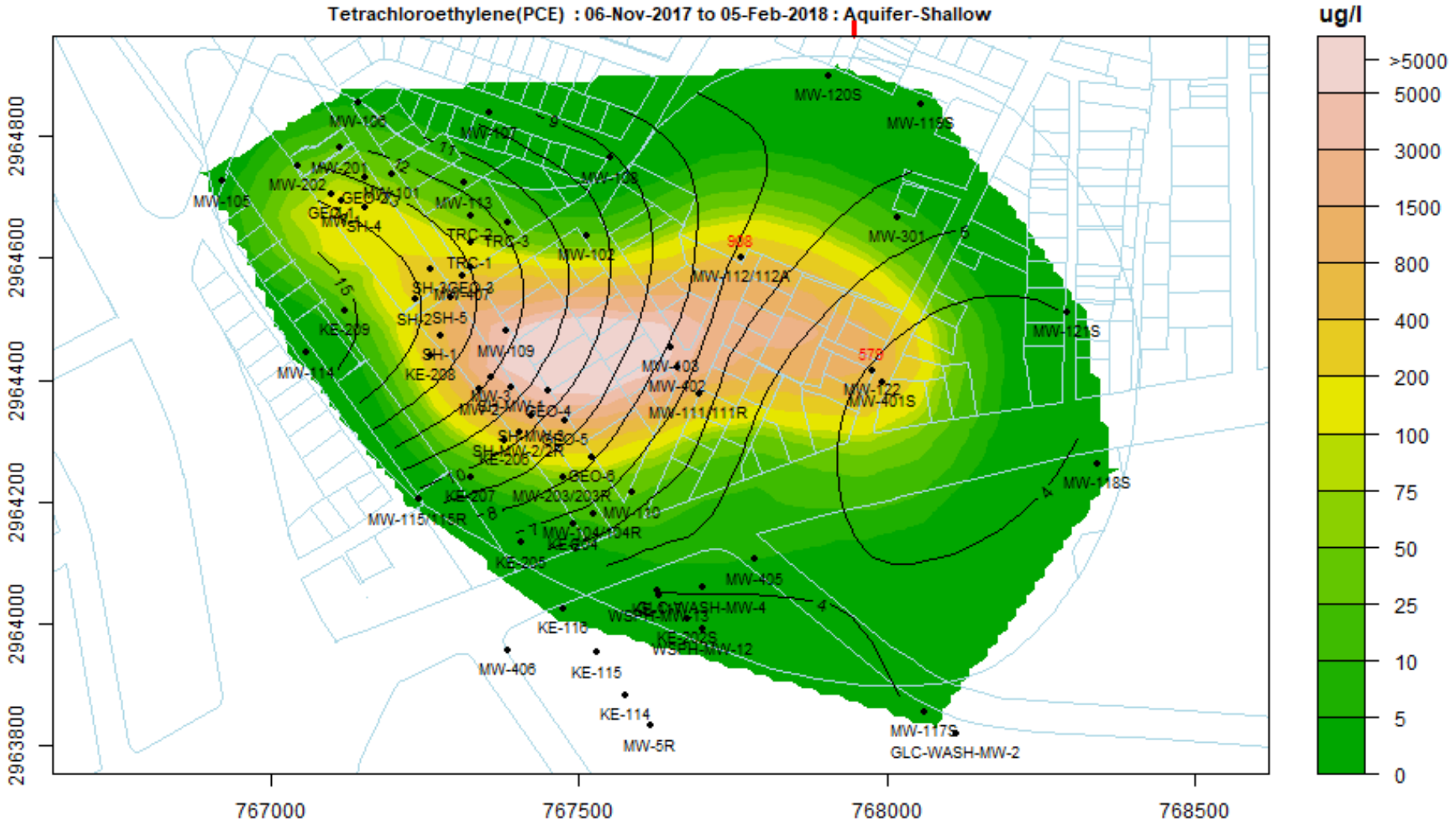
- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- 1,1−Dichloroethylene (1,1−DCE)
- cis−1,2−Dichloroethylene (cis−1,2−DCE)
- trans−1,2−Dichloroethylene (trans−1,2−DCE)
- Vinyl chloride (VC)



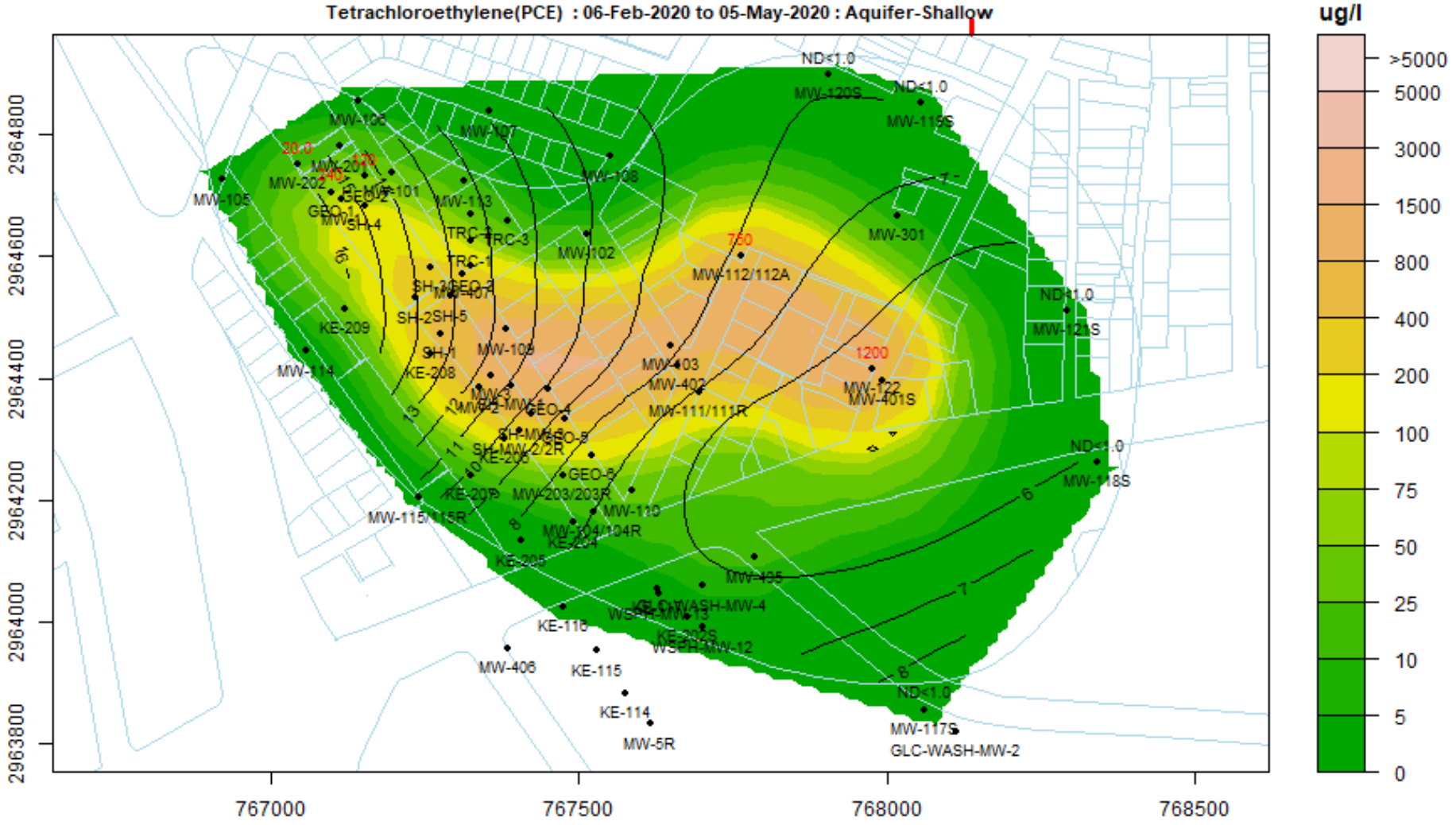
Attachment 2 GWSDAT



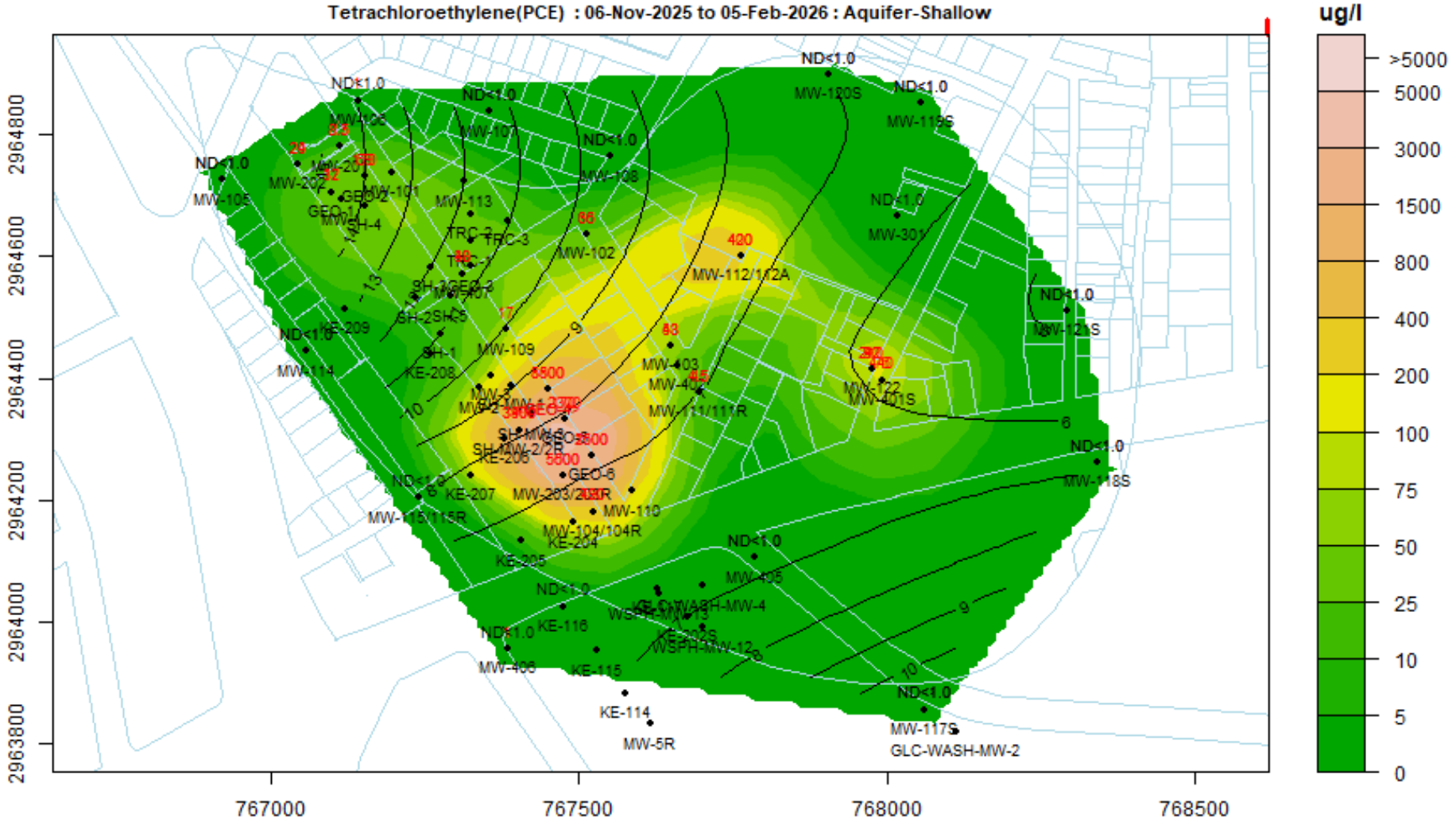
Monitored Natural Attenuation Evaluation 50 Tufts Street Somerville, Massachusetts	GEI Consultants	**2008** **PCE Spatiotemporal Plot** **GWSDAT**	
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026	Figure 1



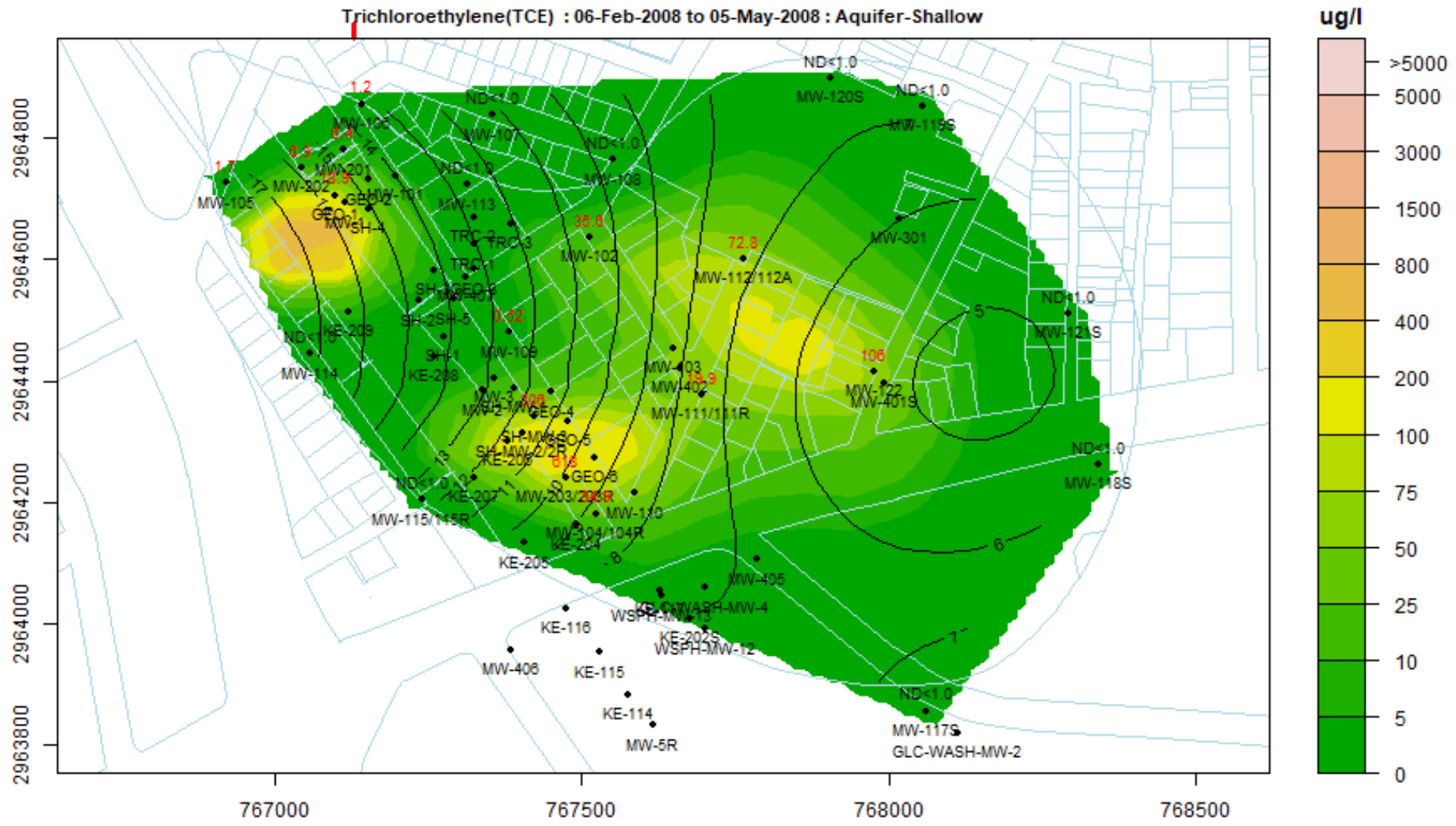
Monitored Natural Attenuation Evaluation 50 Tufts Street Somerville, Massachusetts	GEI Consultants	**2018** **PCE Spatiotemporal Plot** **GWSDAT**	
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026	Figure 2



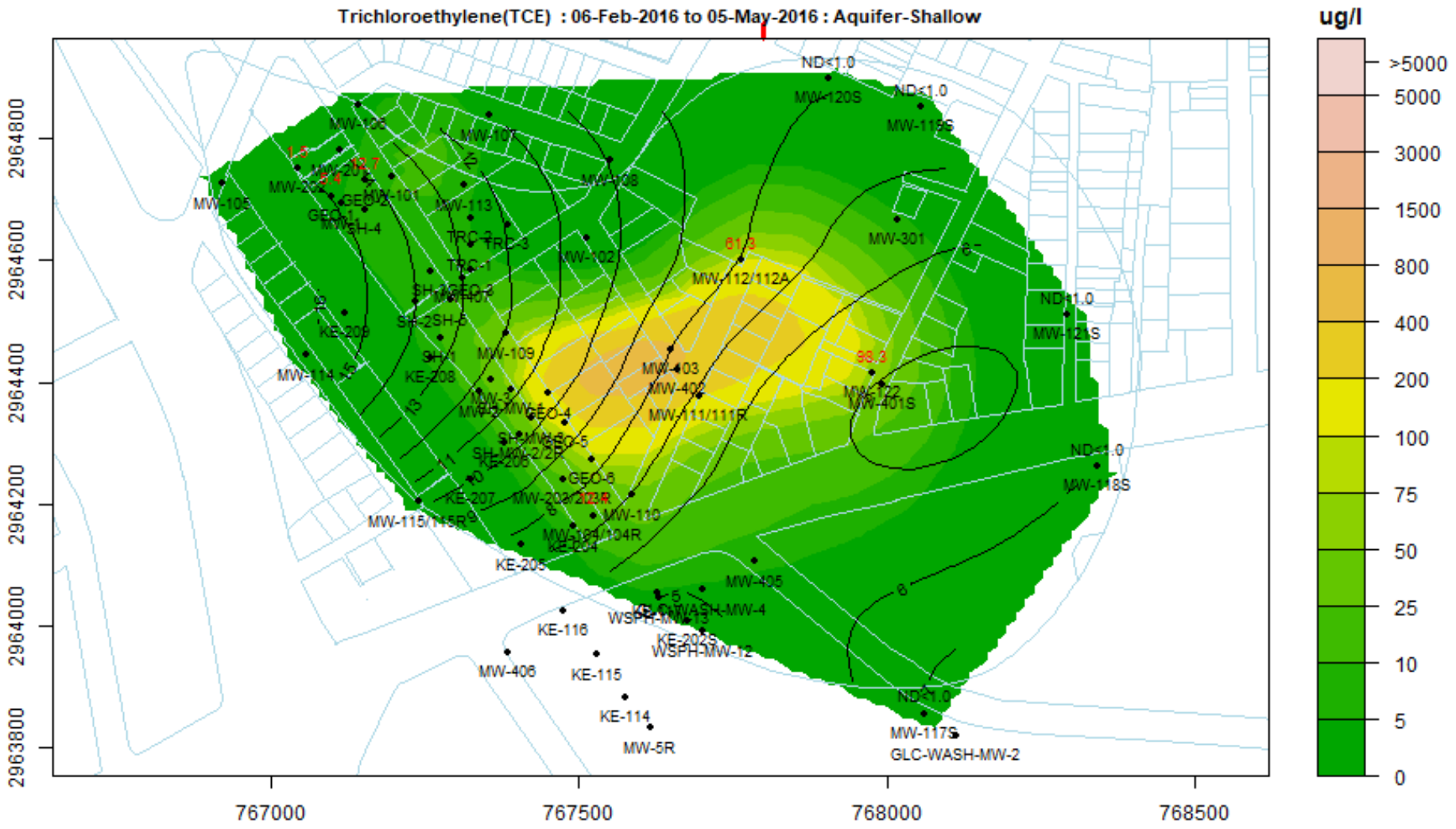
Monitored Natural Attenuation Evaluation 50 Tufts Street Somerville, Massachusetts	GEI Consultants	**2020** **PCE Spatiotemporal Plot** **GWSDAT**	
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026	Figure 3



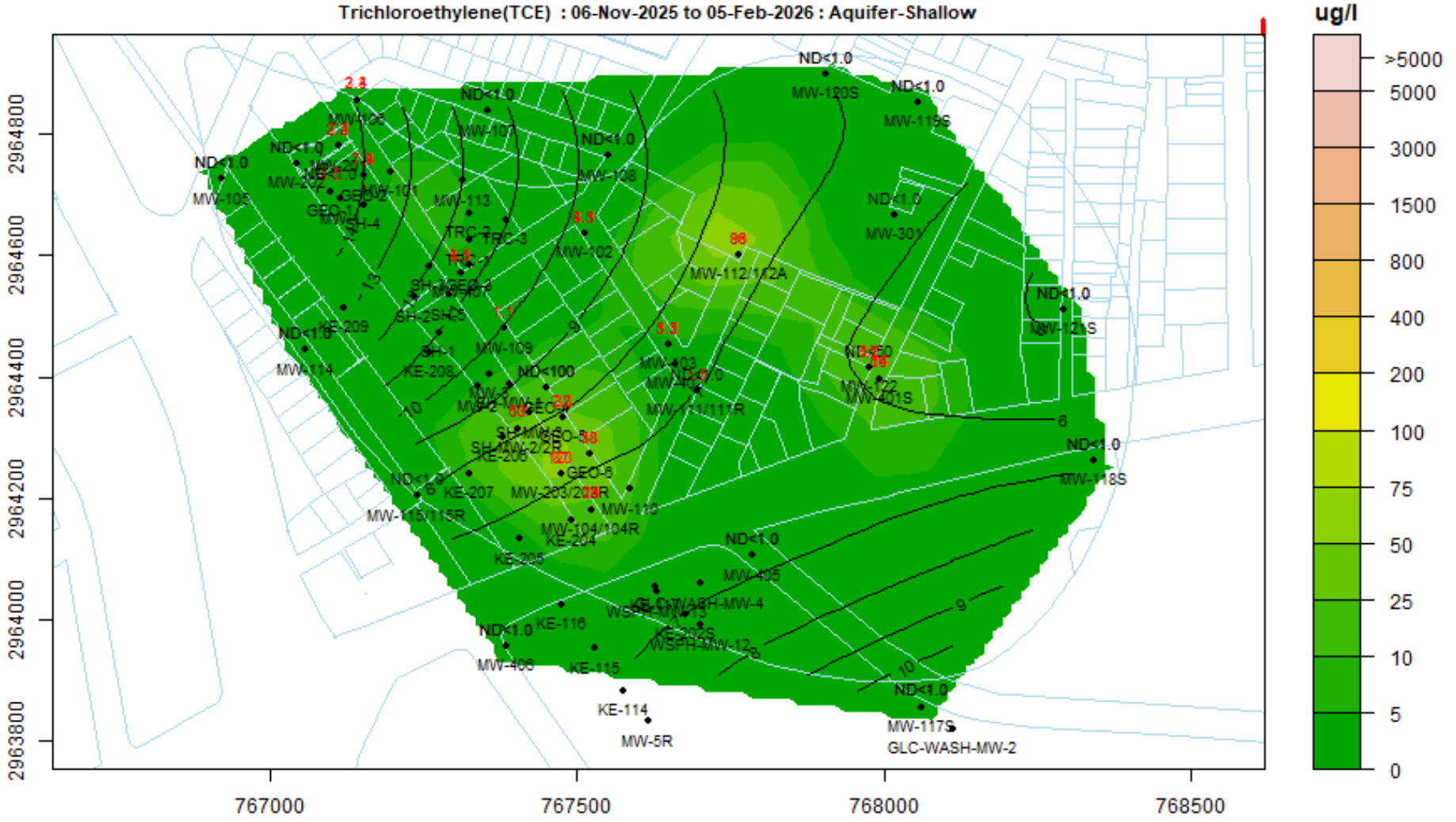
Monitored Natural Attenuation Evaluation 50 Tufts Street Somerville, Massachusetts	GEI Consultants	**2025-2026 PCE Spatiotemporal Plot GWSDAT**	
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026	Figure 4



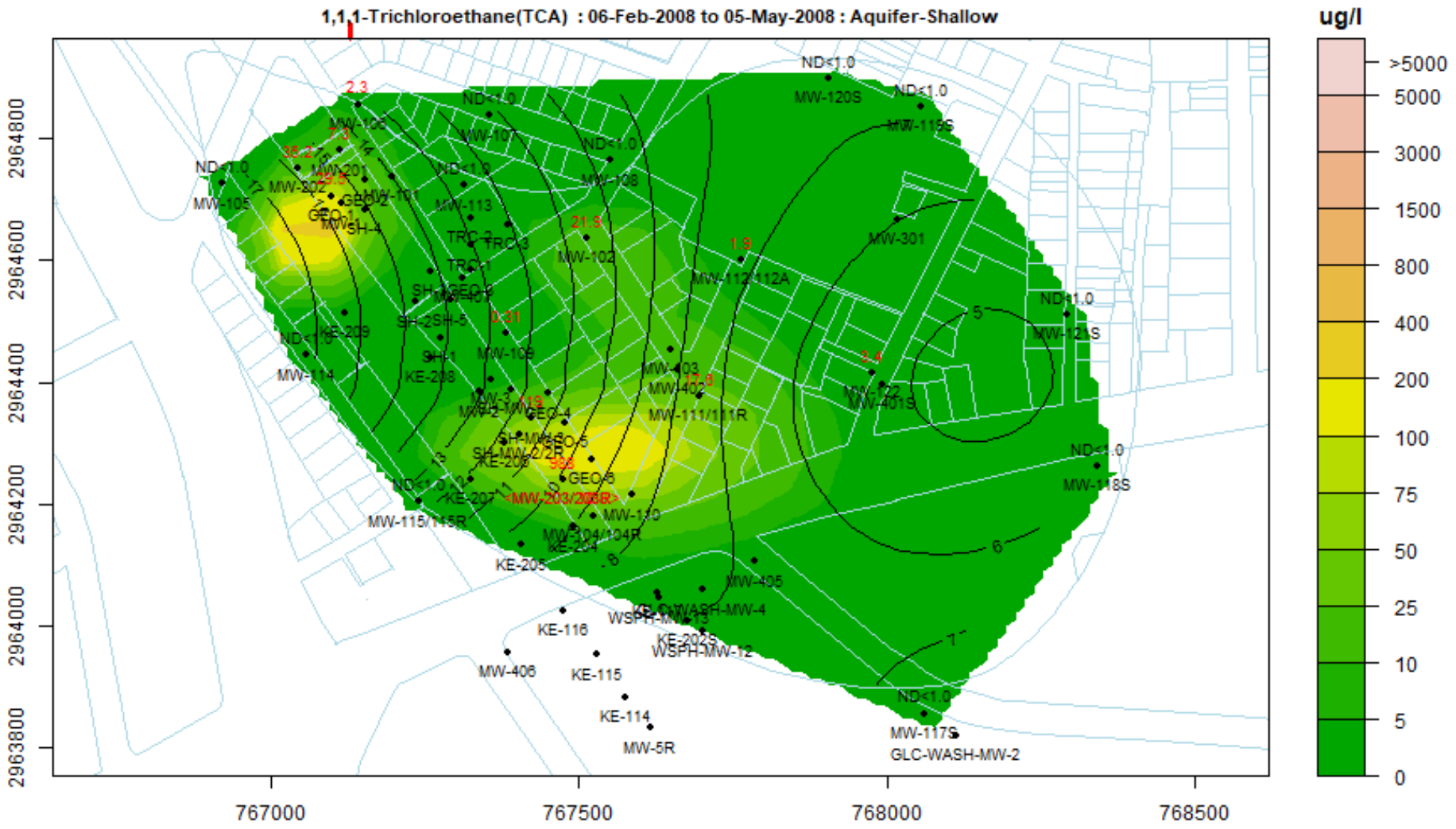
Monitored Natural Attenuation Evaluation 50 Tufts Street Somerville, Massachusetts	GEI Consultants	**2008** **TCE Spatiotemporal Plot** **GWSDAT**	
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026	Figure 5



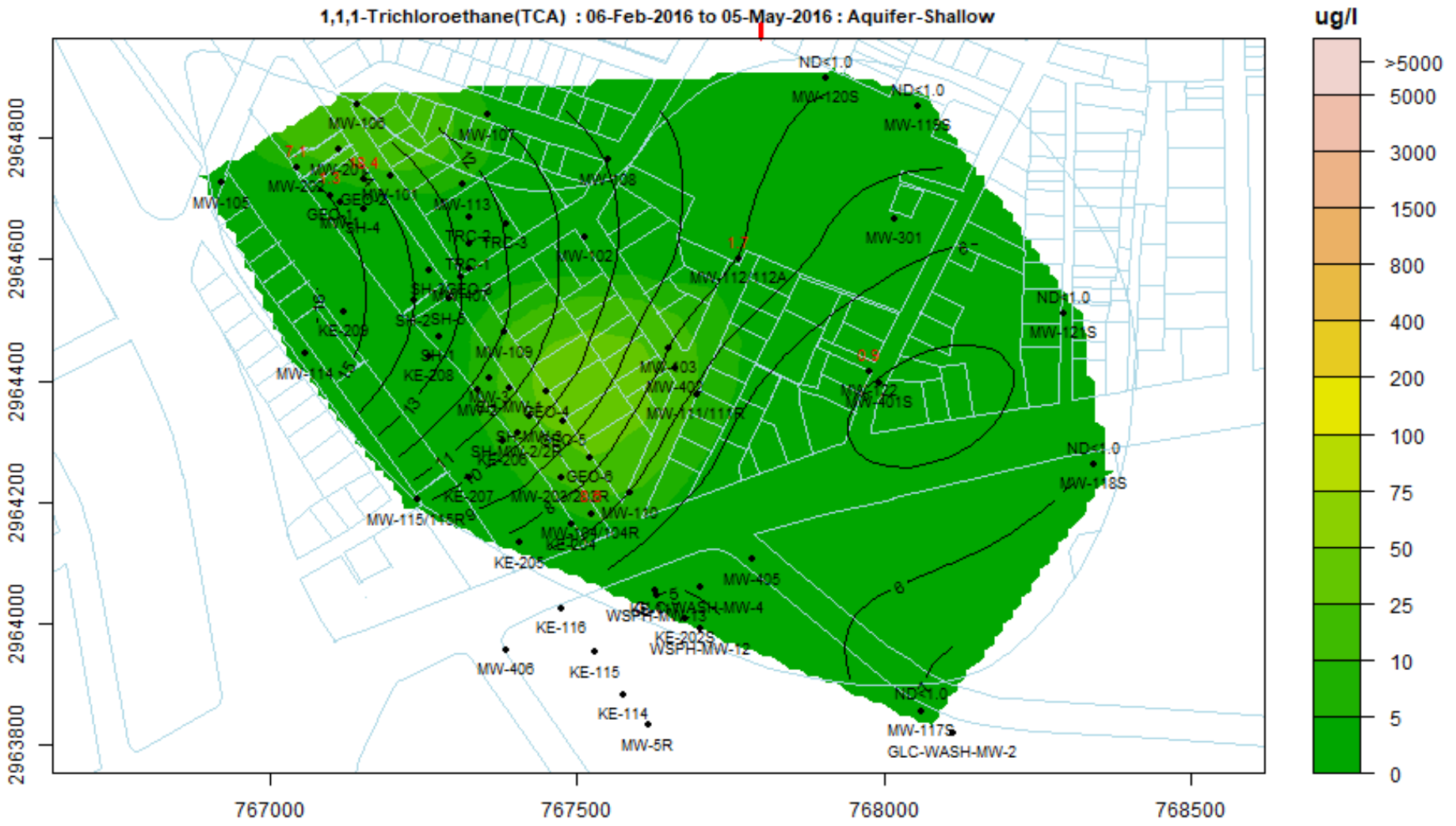
Monitored Natural Attenuation Evaluation 50 Tufts Street Somerville, Massachusetts	GEI Consultants	**2016** **TCE Spatiotemporal Plot** **GWSDAT**	
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026	Figure 6



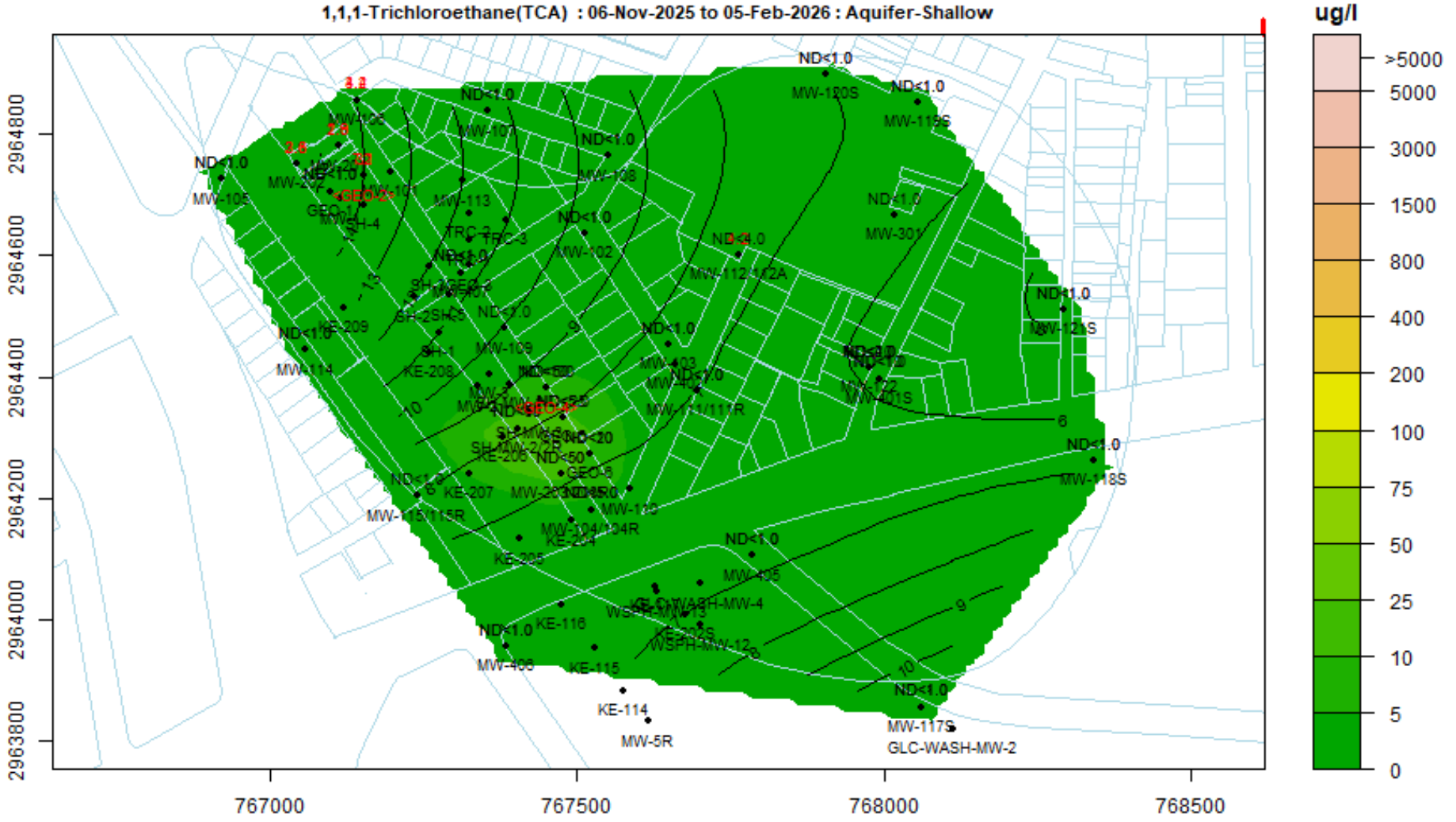
Monitored Natural Attenuation Evaluation 50 Tufts Street Somerville, Massachusetts	GEI Consultants	**2025-2026 TCE Spatiotemporal Plot GWSDAT**	
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026	Figure 7



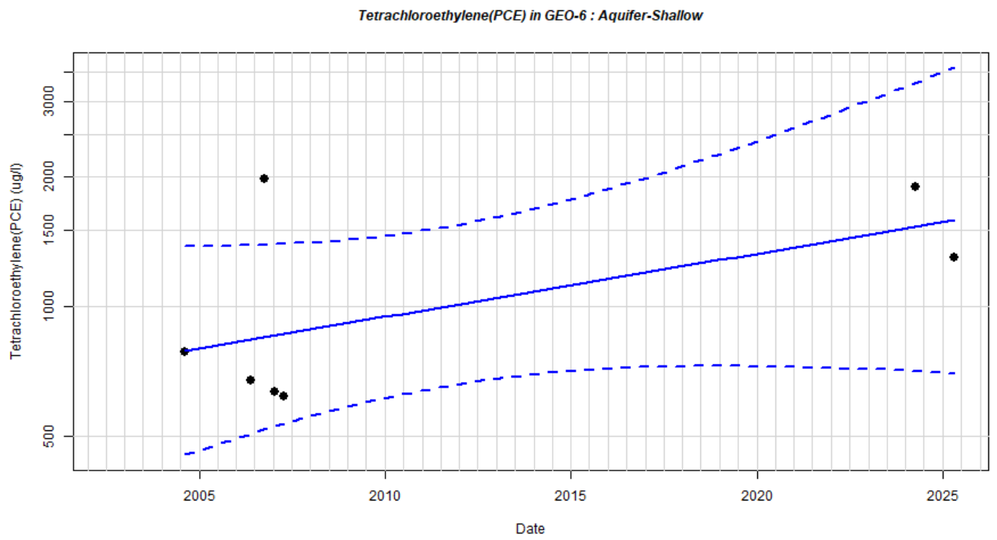
Monitored Natural Attenuation Evaluation 50 Tufts Street Somerville, Massachusetts	GEI Consultants	**2008 1,1,1-TCA Spatiotemporal Plot GWSDAT**	
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026	Figure 8

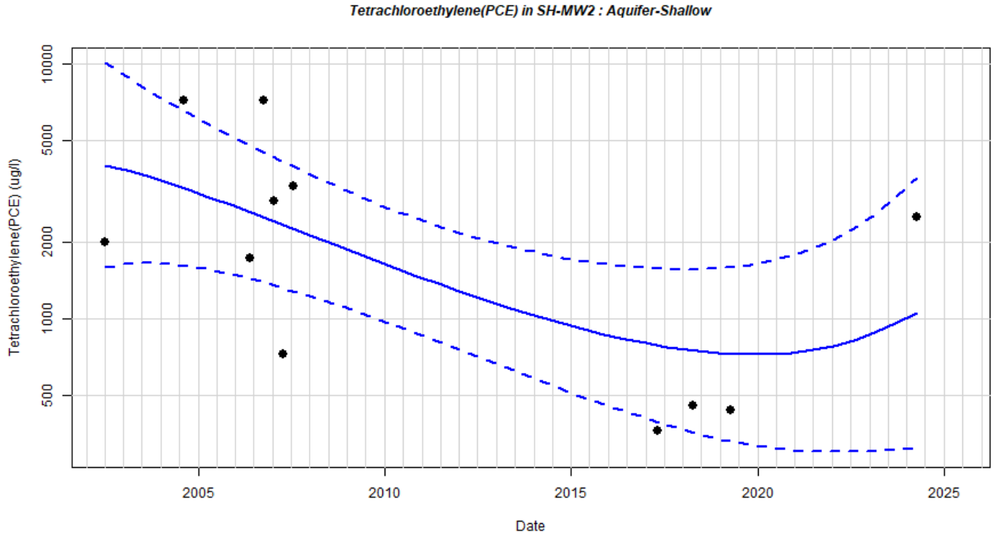


Monitored Natural Attenuation Evaluation 50 Tufts Street Somerville, Massachusetts	GEI Consultants	**2016 1,1,1-TCA Spatiotemporal Plot GWSDAT**	
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026	Figure 9



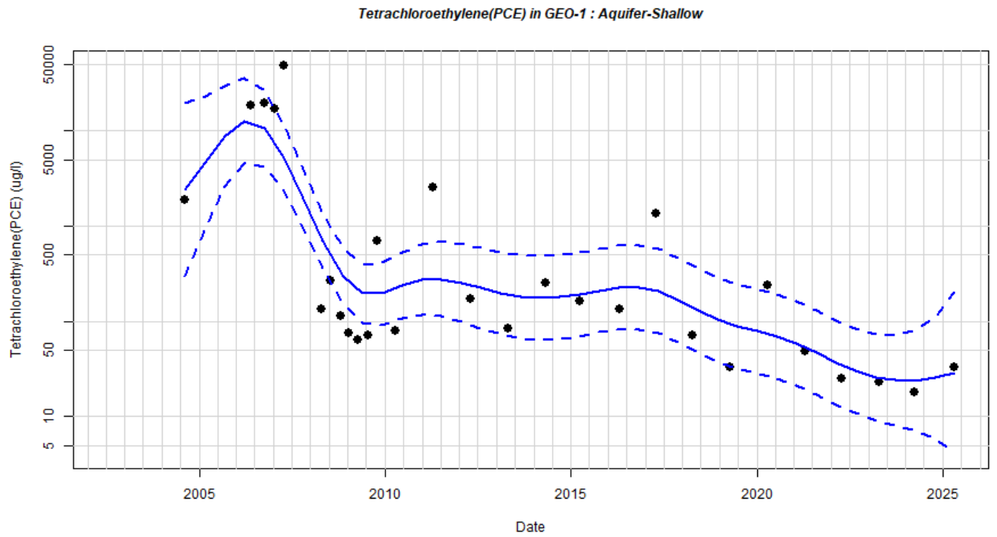
Monitored Natural Attenuation Evaluation 50 Tufts Street Somerville, Massachusetts	GEI Consultants	**2025-2026 1,1,1-TCA Spatiotemporal Plot GWSDAT**	
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026	Figure 10

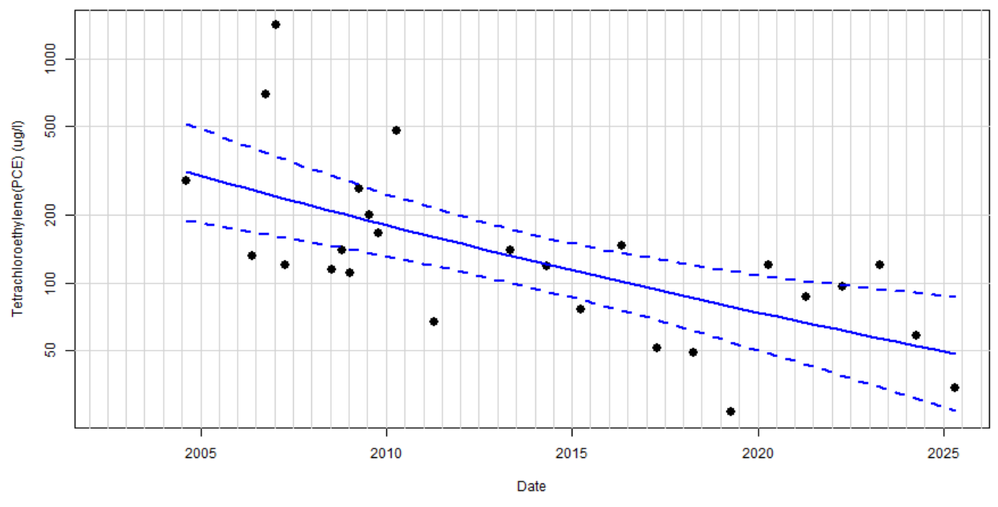




NOTES:

Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	**PCE Time Series Plots** **GEO-6 & SH-MW2**
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Figure 11





NOTES:

Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

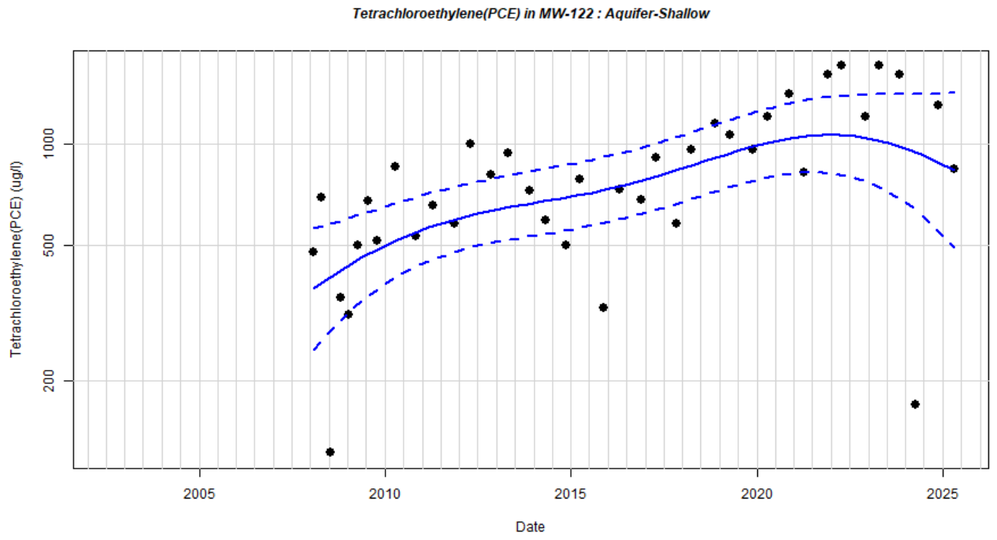
GEI Consultants

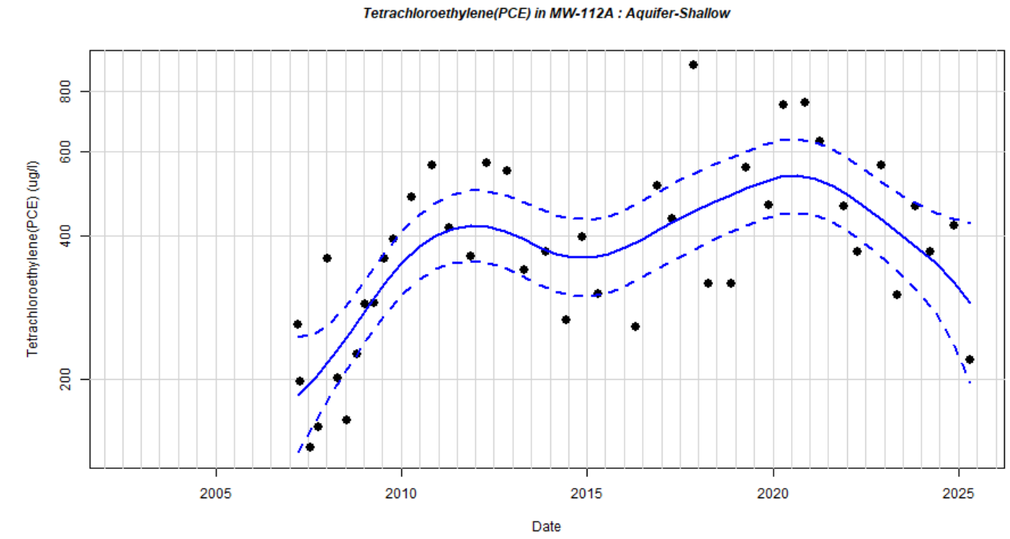
Project 045163

PCE Time Series Plots
GEO-1 & GEO-2

June 2026

Figure 12



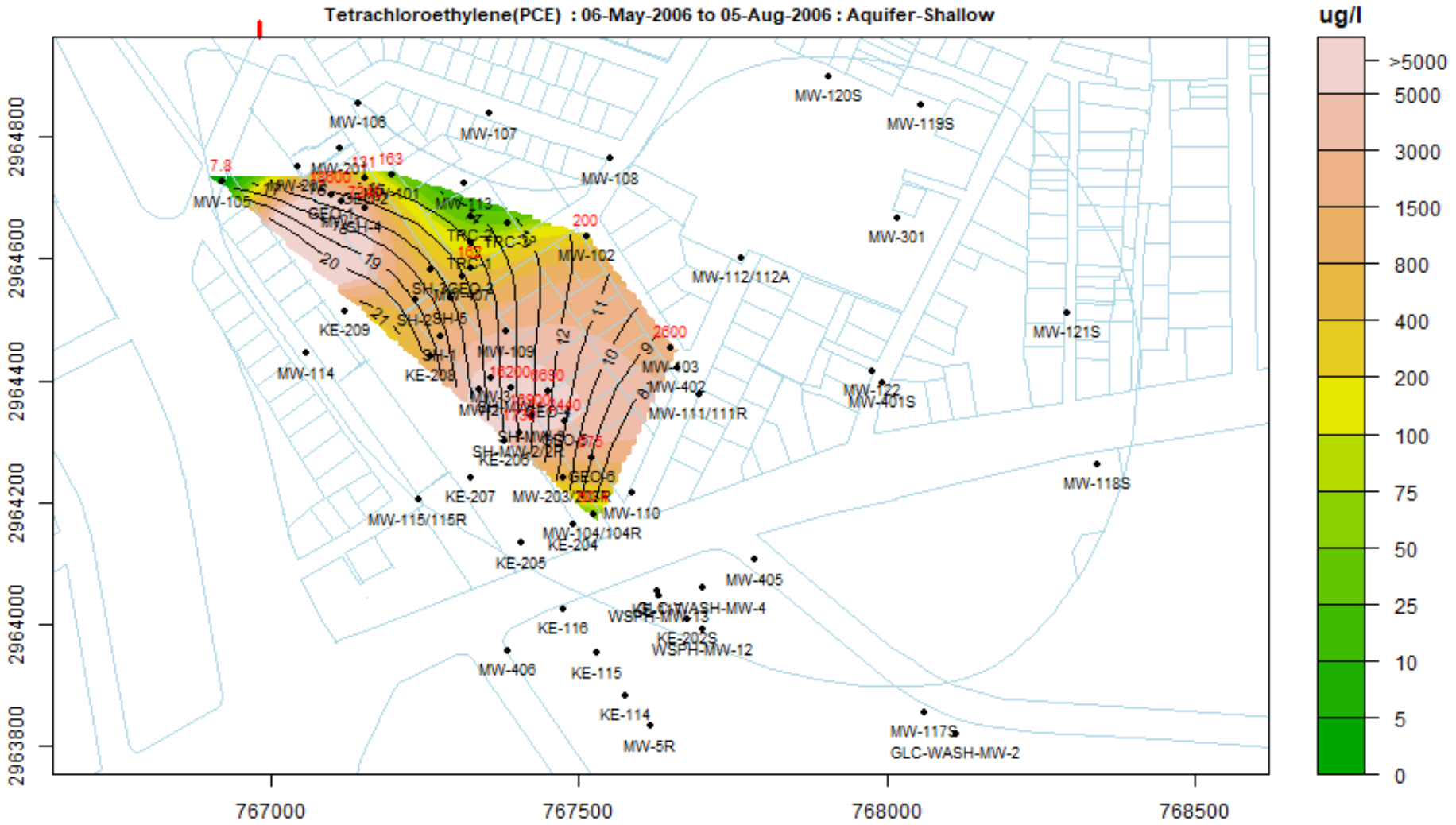


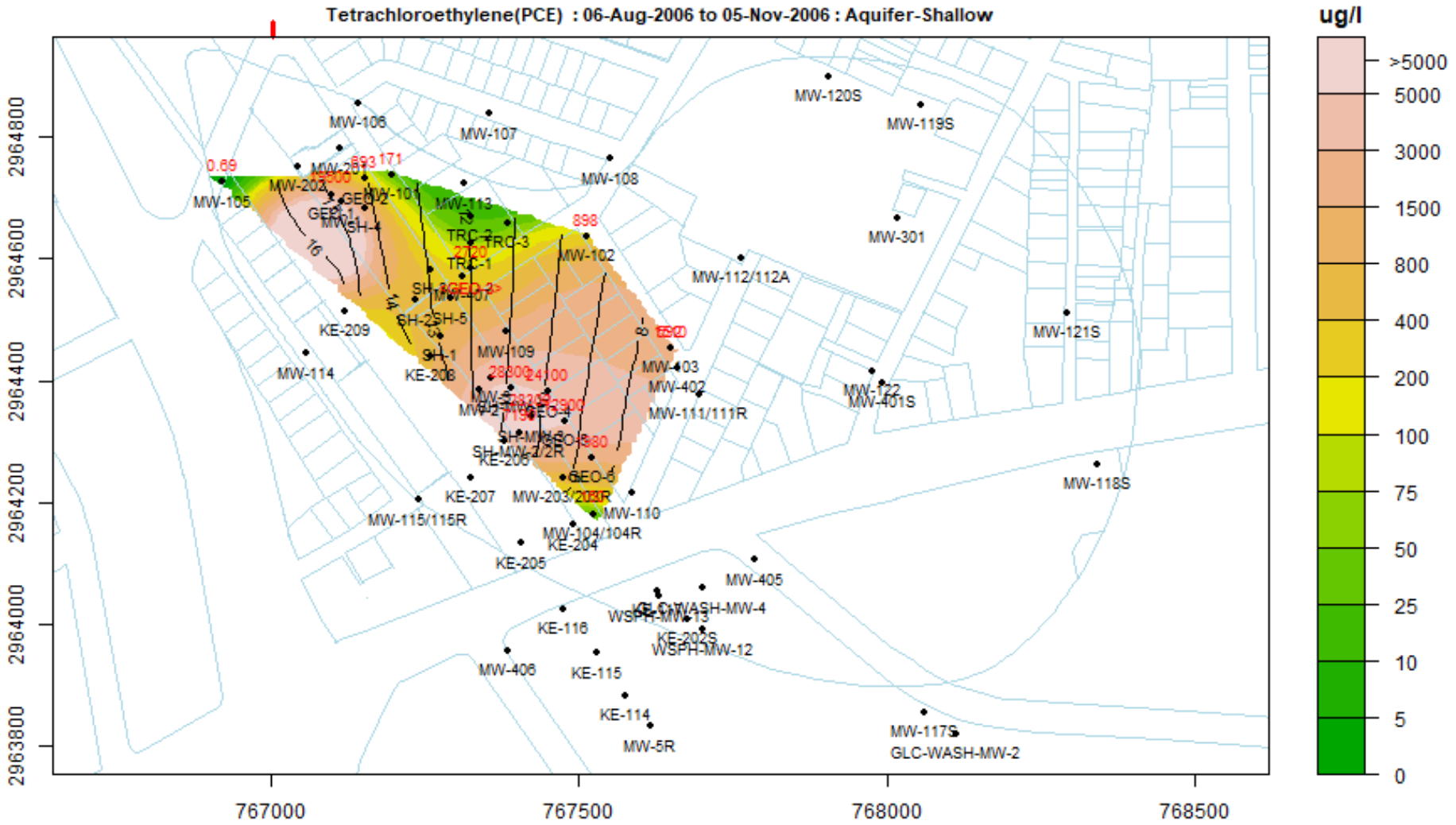
NOTES:

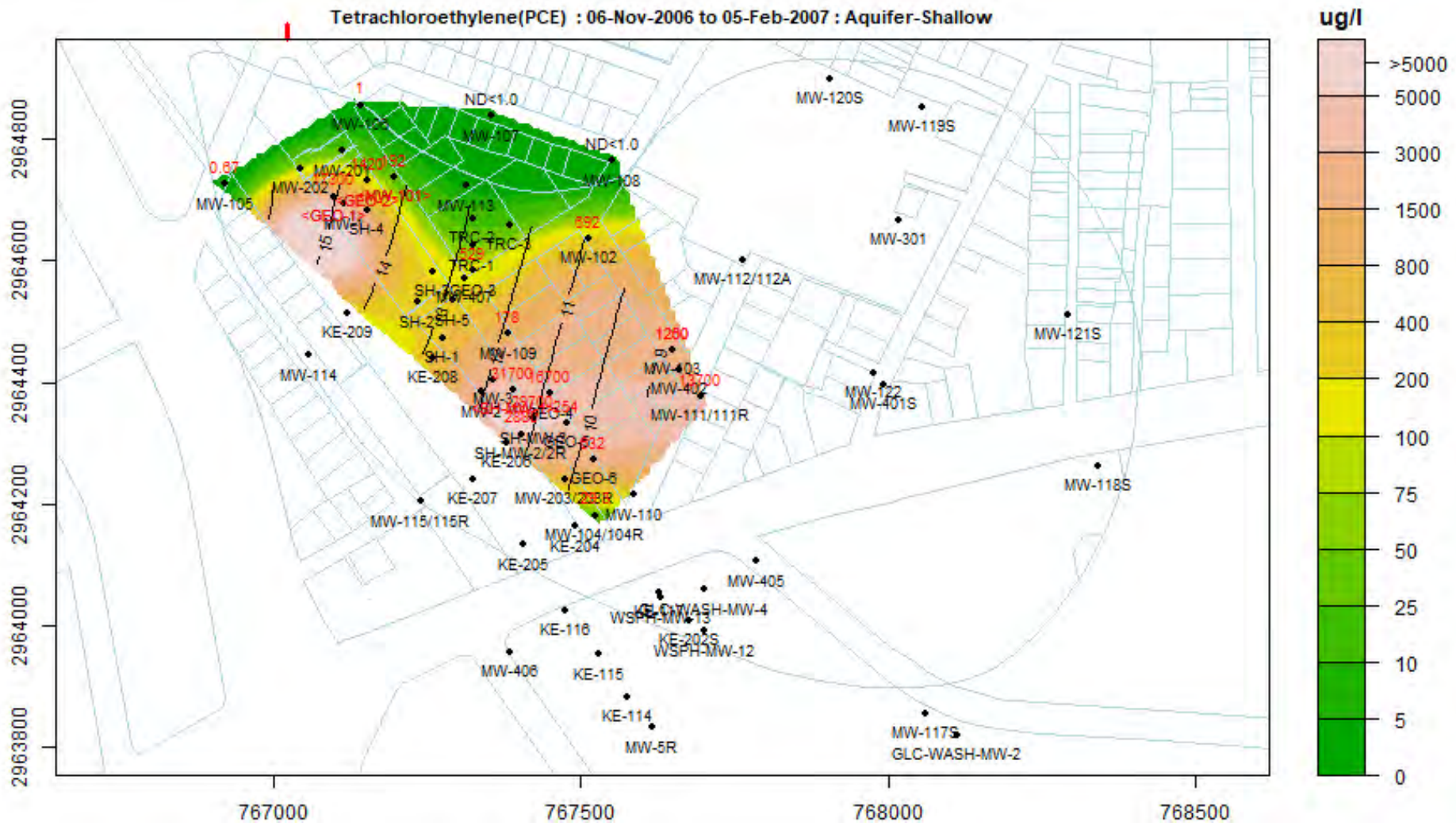
Phase II Comprehensive Site Assessment Addendum 50 Tufts Street Somerville, Massachusetts	GEI Consultants	**PCE Time Series Plots MW-122 & MW-112A**
UniFirst Corporation Wilmington, Massachusetts	Project 045163	June 2026 Figure 13

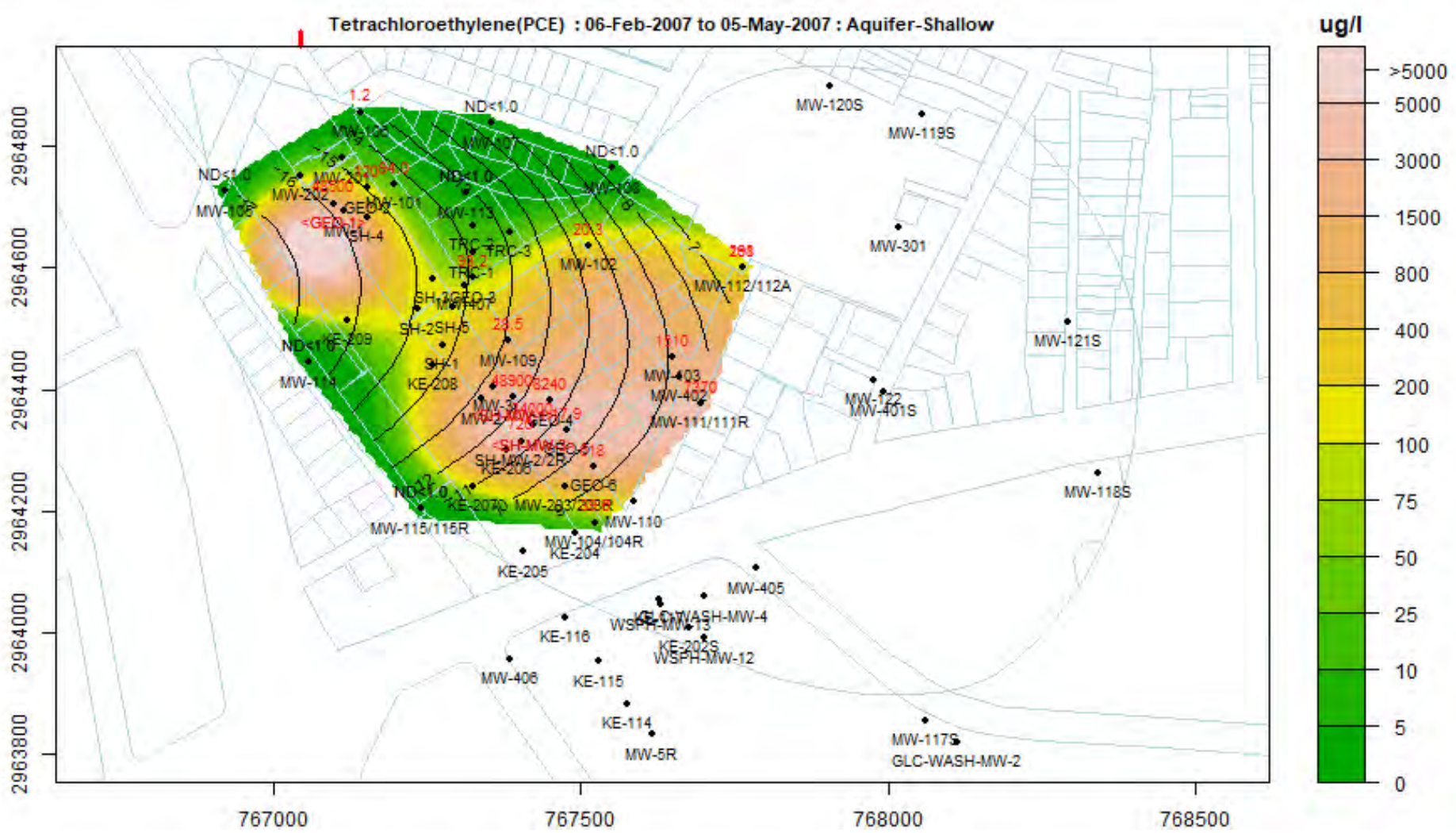
Tetrachloroethylene(PCE) : 06-May-2002 to 05-Aug-2002 : Aquifer-Shallow
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
2964800
2964600
2964400
2964200
2964000
2963800
767000
767500
768000
768500
MW-106
MW-107
MW-108
MW-120S
MW-119S
MW-201
MW-202
MW-101
MW-105
GEO-2
GEO-1
MW-4
MW-113
TRC-2
TRC-3
TRC-1
MW-102
MW-301
MW-112/112A
SH-3
GEO-3
MW-407
SH-2
SH-5
KE-209
MW-121S
SH-1
MW-109
MW-114
KE-208
21000
MW-403
MW-402
MW-122
MW-401S
MW-3
MW-2
GEO-4
MW-111/111R
SH-MW-1
GEO-5
SH-MW-2/2R
KE-206
GEO-6
MW-118S
KE-207
MW-203/203R
MW-110
MW-115/115R
MW-104/104R
KE-204
KE-205
MW-405
GLC-WASH-MW-4
WSPH-MW-13
KE-116
KE-202S
WSPH-MW-12
MW-406
KE-115
KE-114
MW-5R
MW-117S
GLC-WASH-MW-2

Tetrachloroethylene(PCE) : 06-Aug-2004 to 05-Nov-2004 : Aquifer-Shallow
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
2964800
2964600
2964400
2964200
2964000
2963800
767000
767500
768000
768500
MW-106
MW-107
MW-108
MW-120S
MW-119S
MW-105
MW-202
MW-201
MW-101
MW-113
GEO-2
GEO-1
SH-4
TRC-2
TRC-3
TRC-1
MW-102
MW-301
MW-112/112A
SH-3
GEO-3
MW-407
SH-5
KE-209
MW-121S
SH-1
MW-109
MW-114
KE-208
12900
MW-403
MW-402
MW-111/111R
MW-122
MW-401S
MW-3
MW-2
GEO-4
SH-MW-6
GEO-5
SH-MW-2/2R
KE-206
GEO-6
MW-118S
KE-207
MW-203/203R
MW-110
MW-115/115R
MW-104/104R
KE-204
KE-205
MW-405
KE-116
WSPH-MW-13
KE-202S
WSPH-MW-12
MW-406
KE-115
KE-114
MW-5R
MW-117S
GLC-WASH-MW-2


Tetrachloroethylene(PCE) : 06-May-2006 to 05-Aug-2006 : Aquifer-Shallow
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
2964800
2964600
2964400
2964200
2964000
2963800
767000
767500
768000
768500
MW-106
MW-107
MW-108
MW-105
MW-120S
MW-119S
MW-301
MW-112/112A
MW-121S
MW-102
MW-403
MW-402
MW-111/111R
MW-122
MW-401S
MW-118S
MW-110
MW-104/104R
MW-405
MW-406
MW-115/115R
MW-5R
MW-117S
GLC-WASH-MW-2
KE-209
KE-208
KE-207
KE-204
KE-205
KE-116
KE-115
KE-114
KE-202S
WSPH-MW-12
WSPH-MW-13
MW-114
7.8
131
163
200
2600
6200
6650
2440
575


Tetrachloroethylene(PCE) : 06-Aug-2006 to 05-Nov-2006 : Aquifer-Shallow
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
2964800
2964600
2964400
2964200
2964000
2963800
767000
767500
768000
768500
MW-106
MW-107
MW-108
MW-120S
MW-119S
MW-105
MW-202
MW-201
MW-203
MW-204
MW-101
MW-113
GEO-1
GEO-2
SH-4
TRC-2
TRC-3
TRC-1
MW-102
MW-301
MW-112/112A
MW-121S
SH-3
MW-107
SH-2
SH-5
KE-209
SH-1
MW-109
MW-114
KE-208
MW-403
MW-402
MW-401S
MW-122
MW-111/111R
GEO-4
SH-MW-6
SH-MW-2/2R
KE-206
GEO-5
MW-118S
KE-207
MW-203/203R
MW-110
MW-115/115R
MW-104/104R
KE-204
KE-205
MW-405
GLC-WASH-MW-4
WSPH-MW-13
KE-116
KE-202S
WSPH-MW-12
MW-406
KE-115
KE-114
MW-5R
MW-117S
GLC-WASH-MW-2


Tetrachloroethylene(PCE) : 06-Nov-2006 to 05-Feb-2007 : Aquifer-Shallow
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
2964800
2964600
2964400
2964200
2964000
2963800
767000
767500
768000
768500
ND<1.0
ND<1.0
MW-120S
MW-119S
MW-301
MW-112/112A
MW-121S
MW-122
MW-401S
MW-118S
MW-105
MW-202
MW-201
MW-113
MW-102
MW-108
MW-107
MW-4
TRC-2
TRC-3
TRC-1
SH-7
GEO-2
SH-5
SH-2
SH-1
MW-109
KE-209
KE-208
MW-114
MW-403
MW-402
MW-111/111R
GEO-4
SH-MW-6
SH-MW-2/2R
KE-206
GEO-6
KE-207
MW-203/203R
MW-110
MW-115/115R
MW-104/104R
KE-204
KE-205
MW-405
KE-116
WSPH-MW-13
KE-202S
WSPH-MW-12
MW-406
KE-115
KE-114
MW-5R
MW-117S
GLC-WASH-MW-2
1260
6700
12700
892
528
178
15
14
11
10


Tetrachloroethylene(PCE) : 06-Feb-2007 to 05-May-2007 : Aquifer-Shallow
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
2964800
2964600
2964400
2964200
2964000
2963800
767000
767500
768000
768500
MW-120S
MW-119S
MW-301
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MW-112/112A
MW-111/111R
MW-110
MW-104/104R
MW-115/115R
MW-405
MW-406
MW-117S
GLC-WASH-MW-2
MW-5R
KE-205
KE-204
KE-116
KE-115
KE-114
KE-202S
WSPH-MW-12
WSPH-MW-13
GLC-WASH-MW-4
MW-105
MW-114
KE-208
KE-207D
KE-209
MW-109
MW-102
MW-103
MW-402
MW-108
MW-113
MW-101
MW-202
MW-201
MW-107
SH-1
SH-2
SH-3
TRC-1
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GEO-1
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GEO-6
GEO-18
MW-4
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1370
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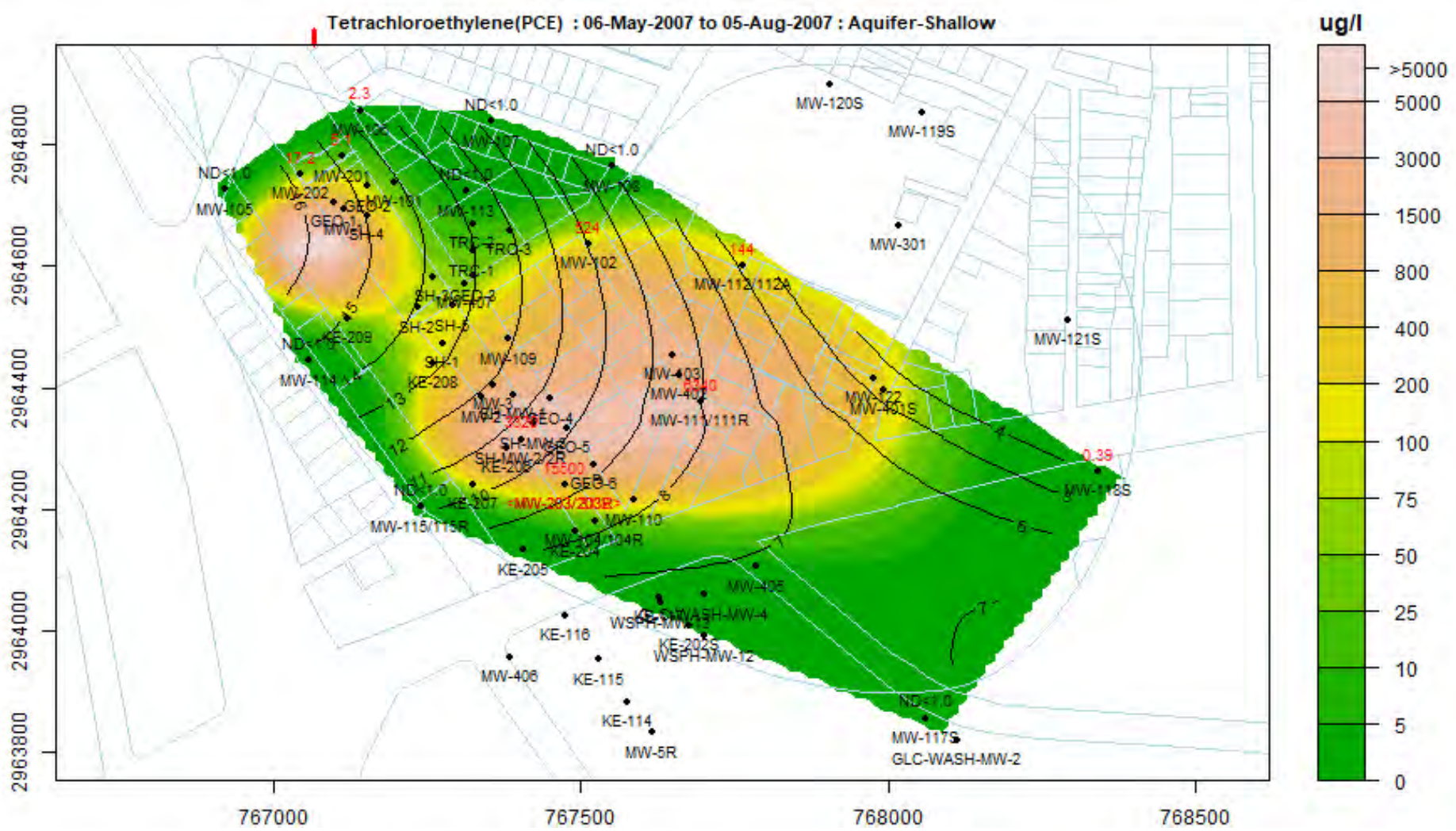
1200
1400
4300
8900
12000
1500


Tetrachloroethylene(PCE) : 06-May-2007 to 05-Aug-2007 : Aquifer-Shallow
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
2964800
2964600
2964400
2964200
2964000
2963800
767000
767500
768000
768500
MW-120S
MW-119S
MW-301
MW-121S
MW-118S
MW-112/112A
MW-111/111R
MW-102
MW-403
MW-401S
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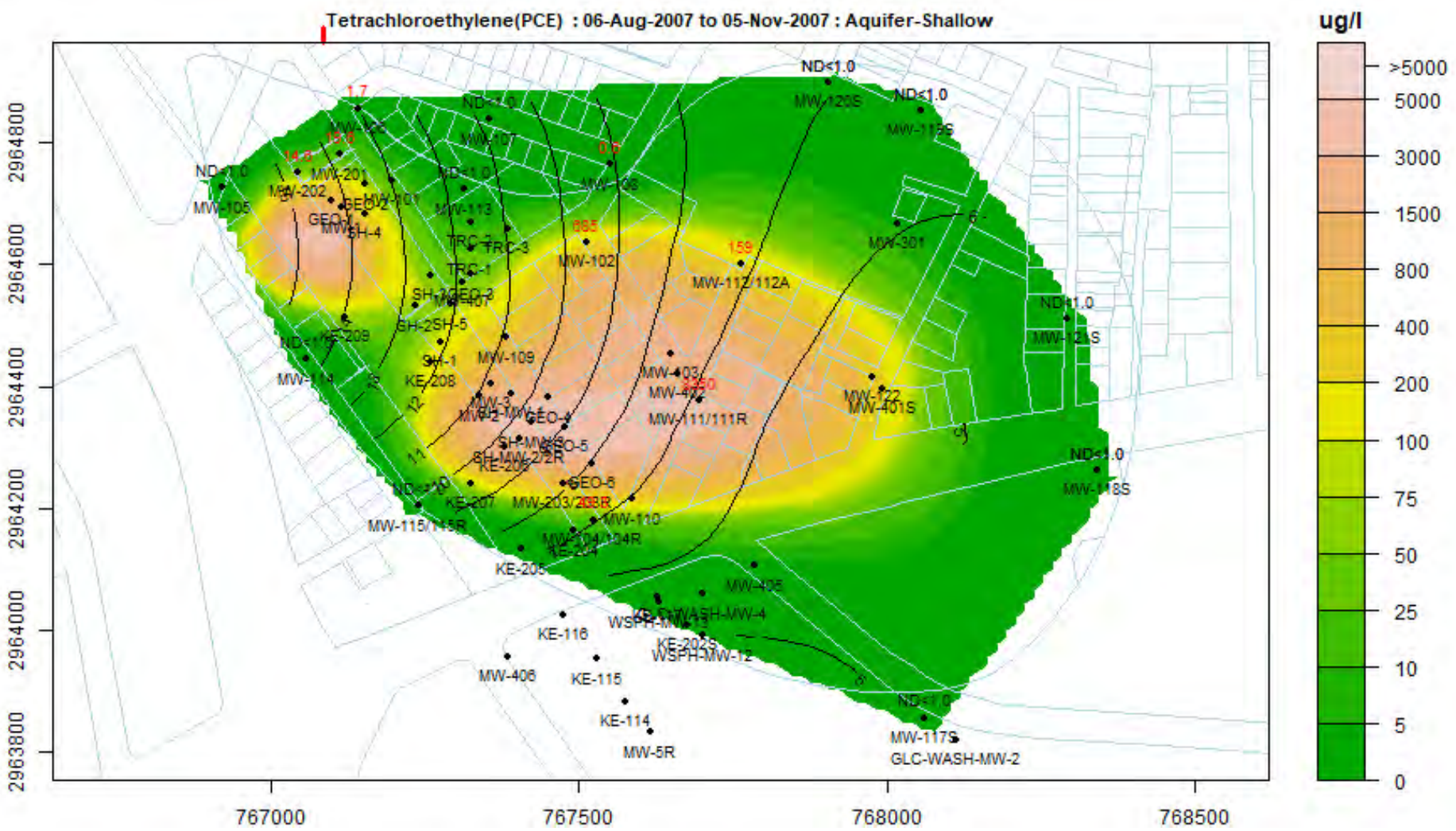
Tetrachloroethylene(PCE) : 06-Aug-2007 to 05-Nov-2007 : Aquifer-Shallow
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GEO-4
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GEO-6
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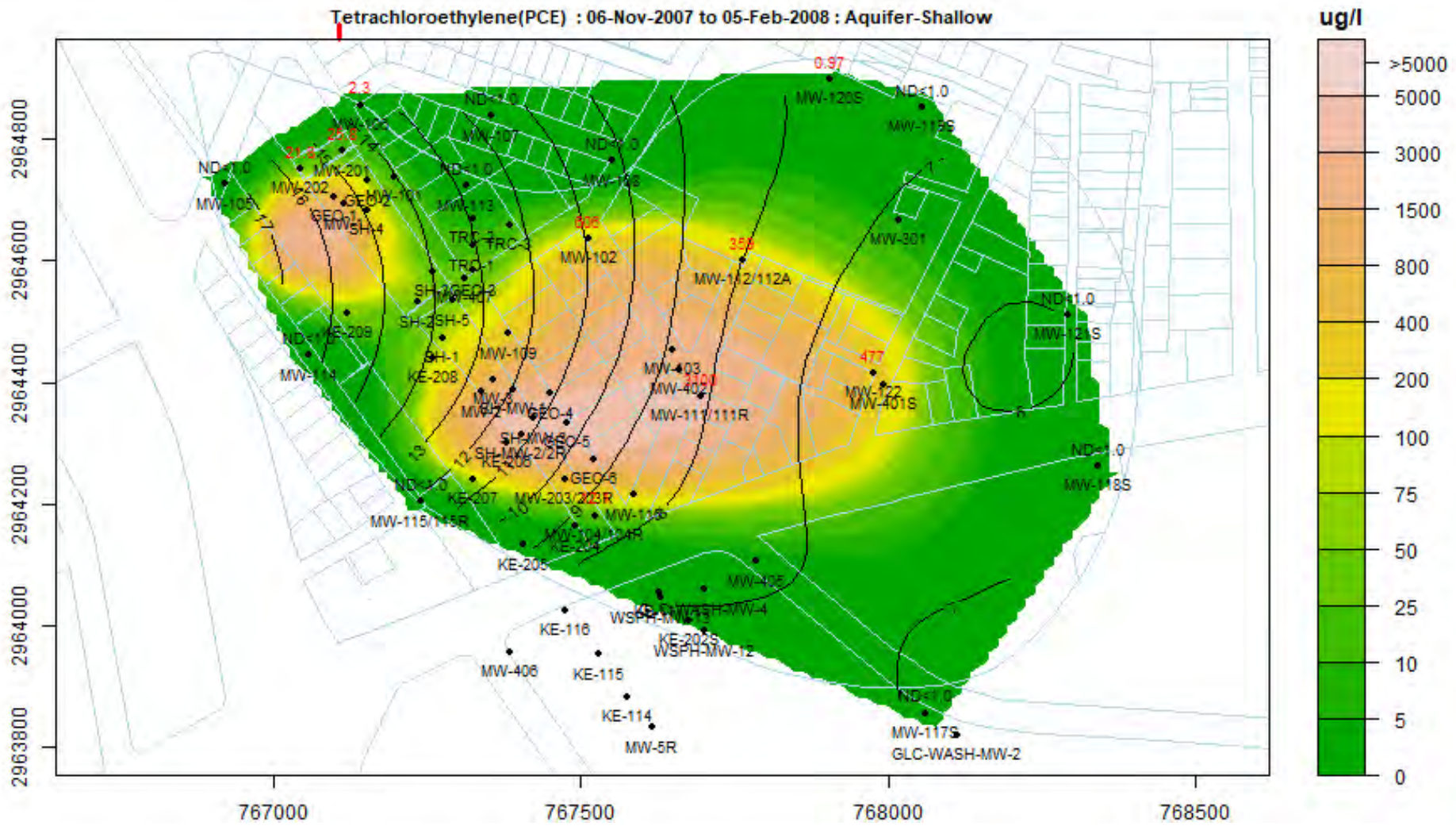
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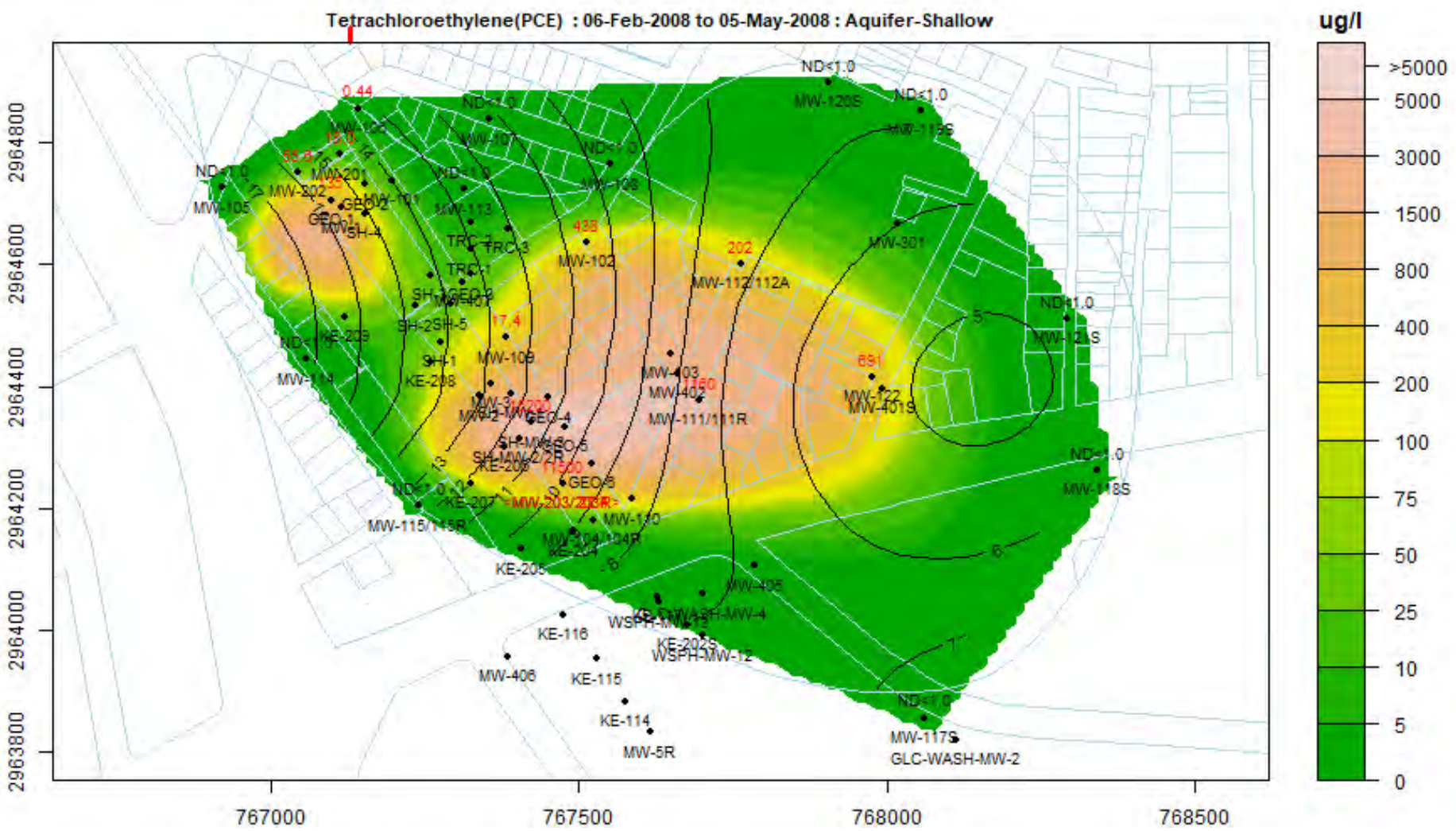
Tetrachloroethylene(PCE) : 06-Feb-2008 to 05-May-2008 : Aquifer-Shallow
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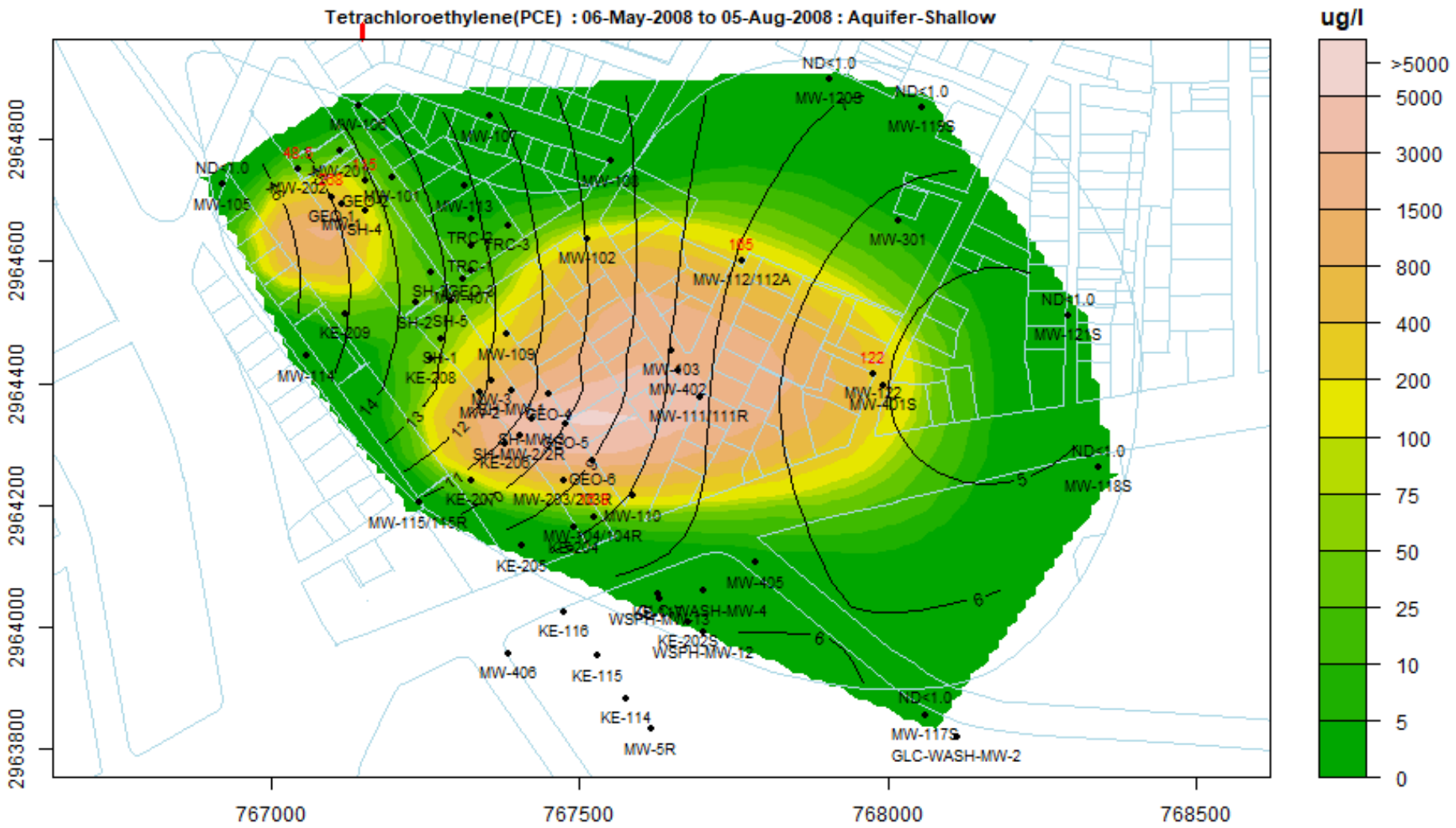
Tetrachloroethylene(PCE) : 06-May-2008 to 05-Aug-2008 : Aquifer-Shallow
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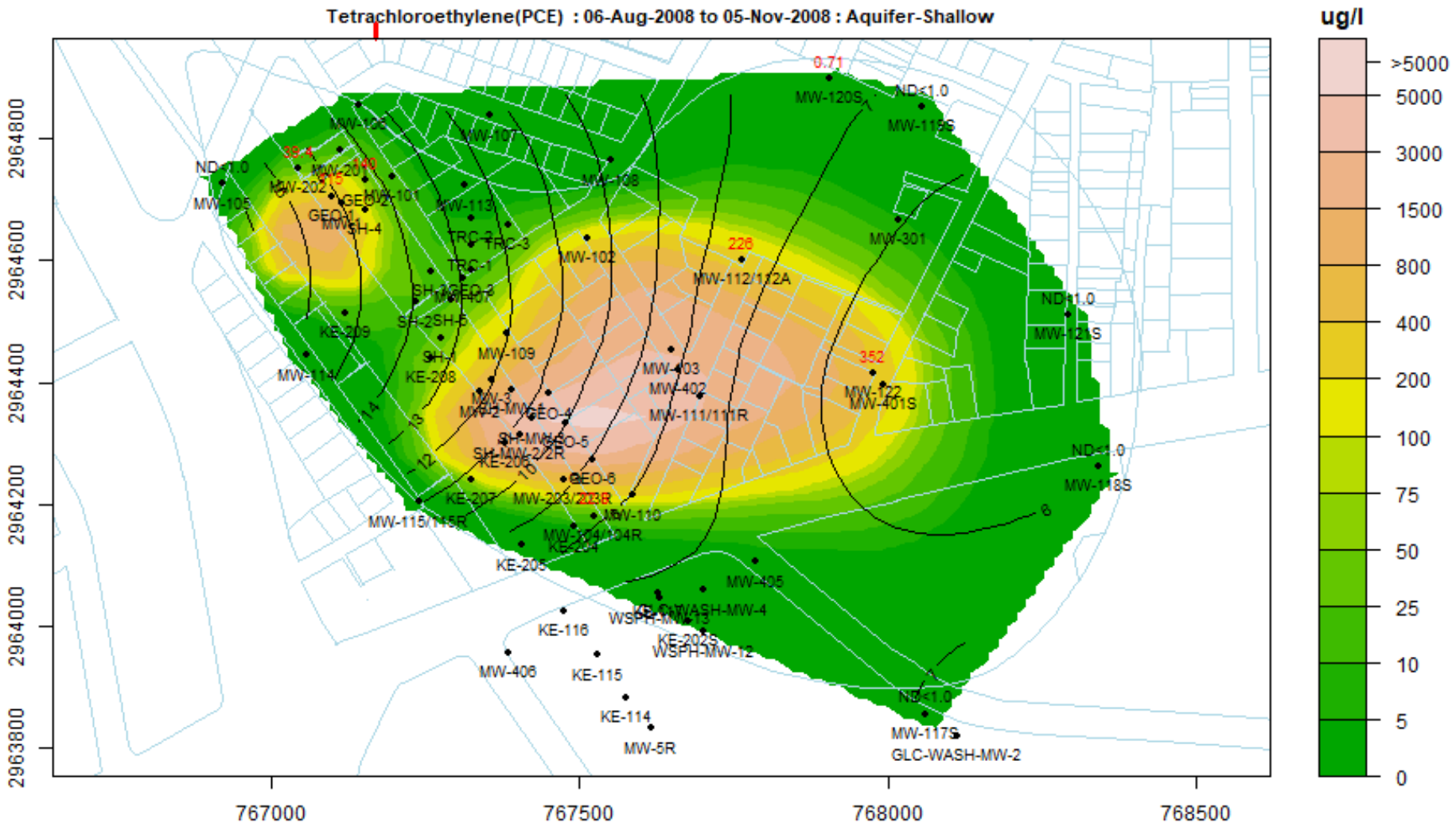
Tetrachloroethylene(PCE) : 06-Aug-2008 to 05-Nov-2008 : Aquifer-Shallow
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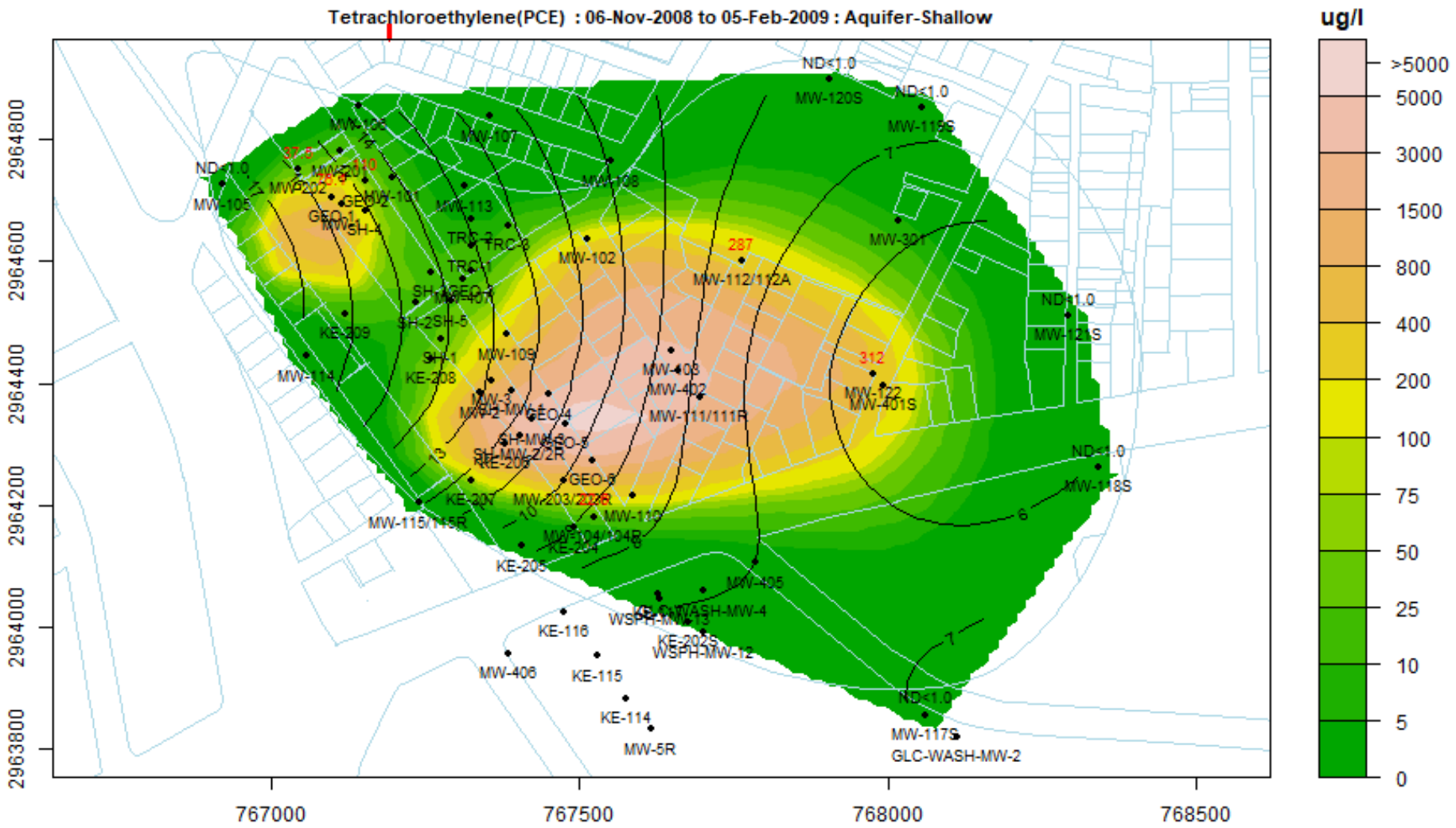
Tetrachloroethylene(PCE) : 06-Nov-2008 to 05-Feb-2009 : Aquifer-Shallow
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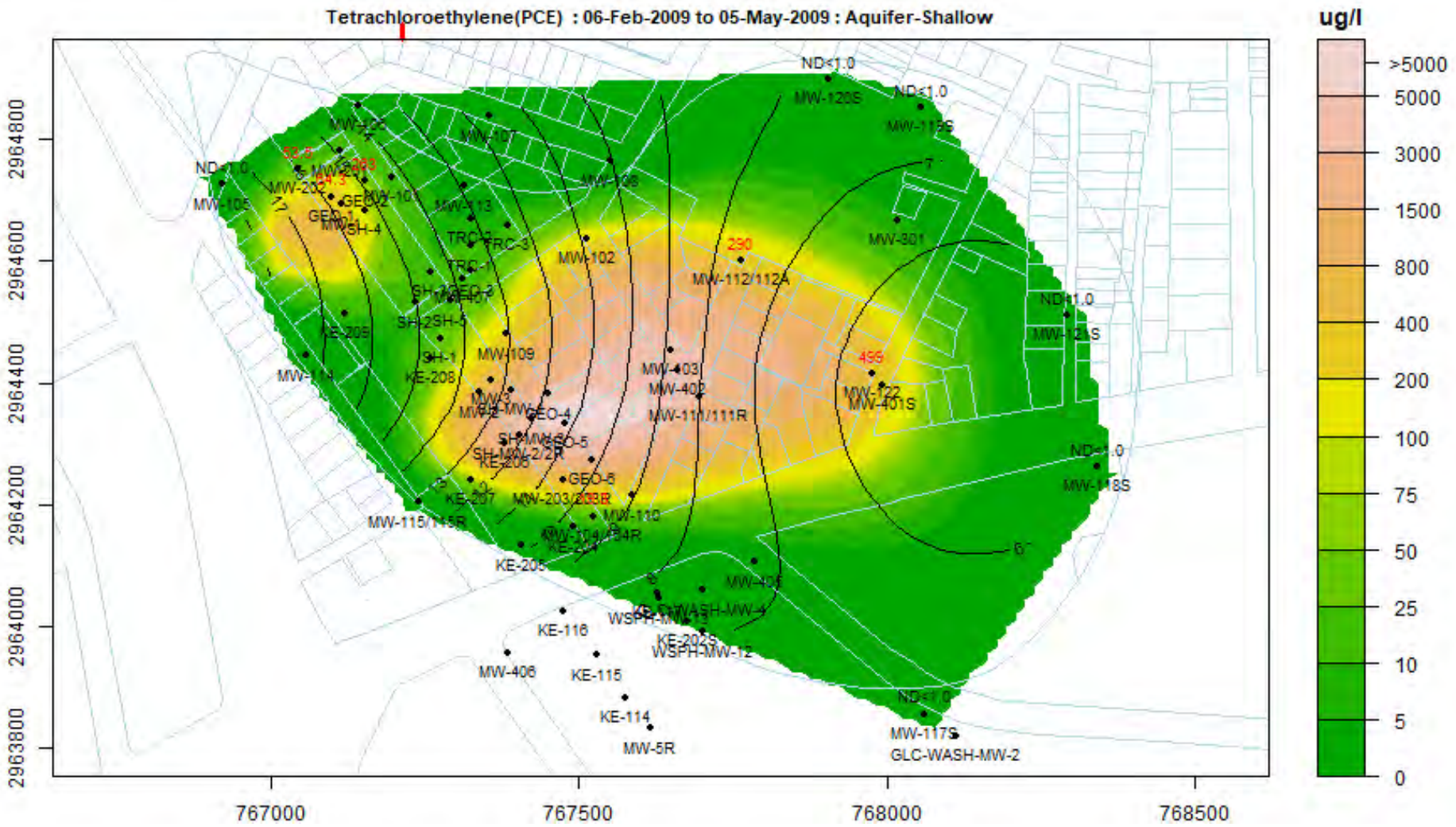
Tetrachloroethylene(PCE) : 06-Feb-2009 to 05-May-2009 : Aquifer-Shallow
ug/l
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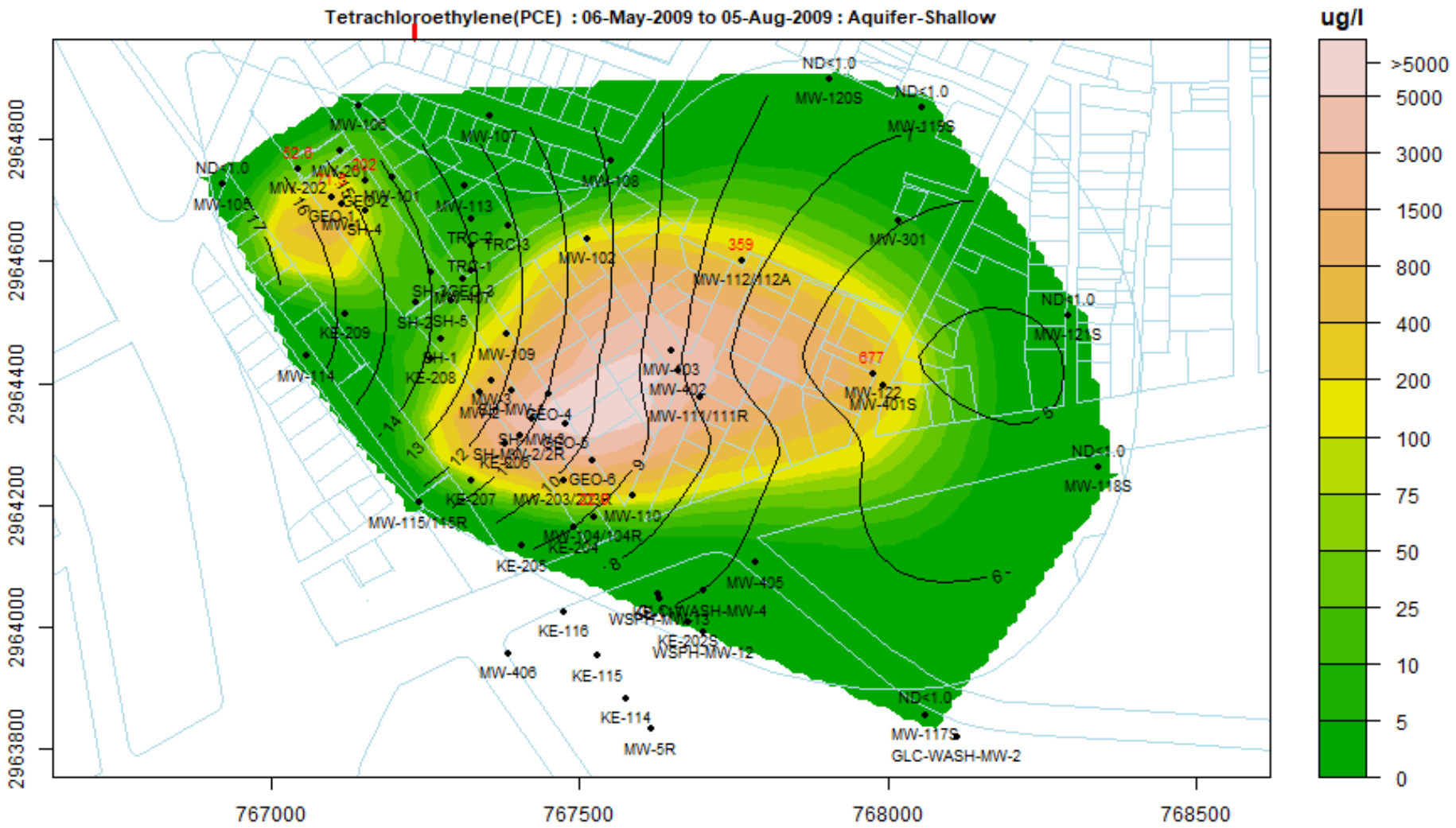
Tetrachloroethylene(PCE) : 06-May-2009 to 05-Aug-2009 : Aquifer-Shallow
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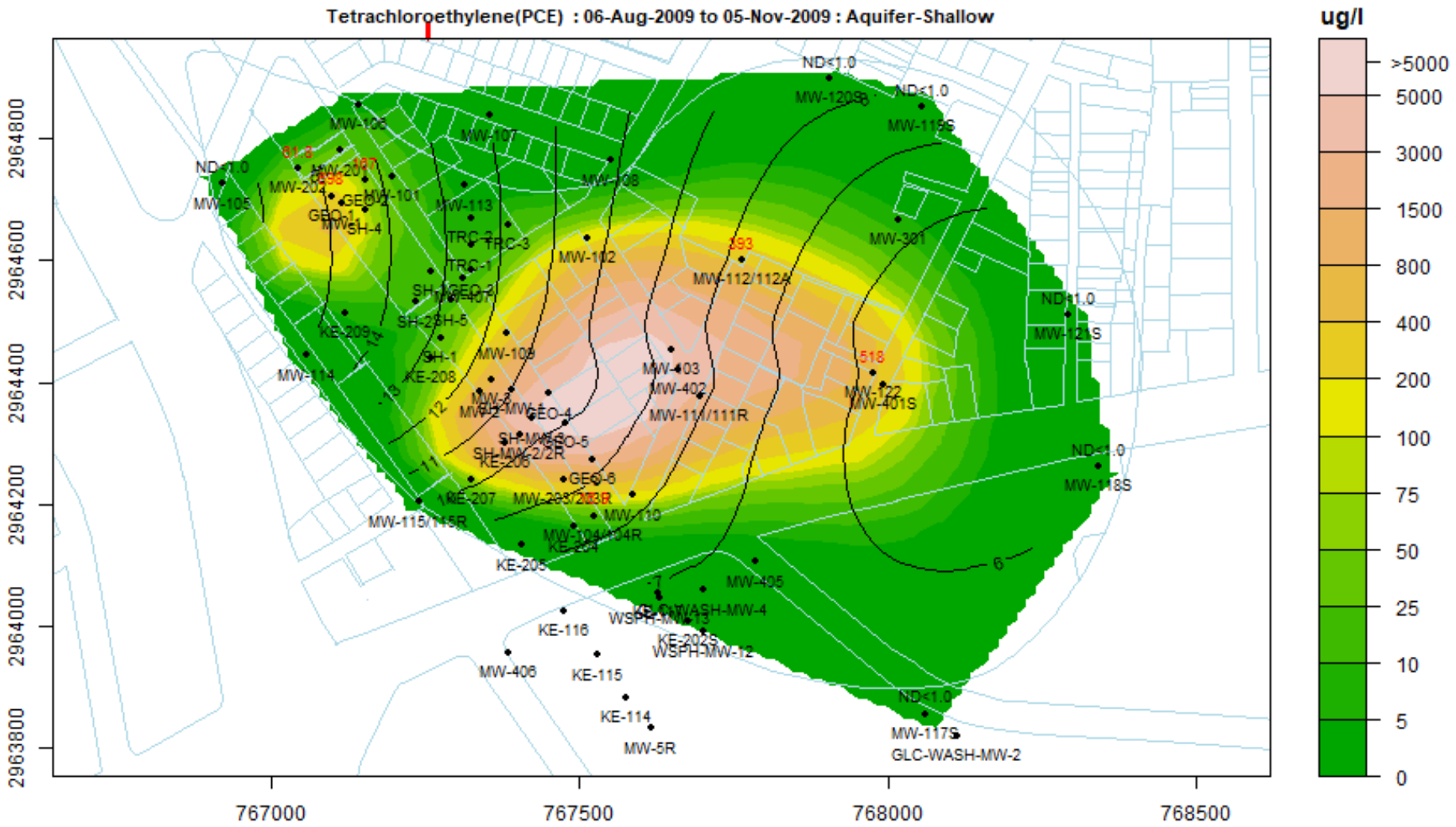
Tetrachloroethylene(PCE) : 06-Aug-2009 to 05-Nov-2009 : Aquifer-Shallow
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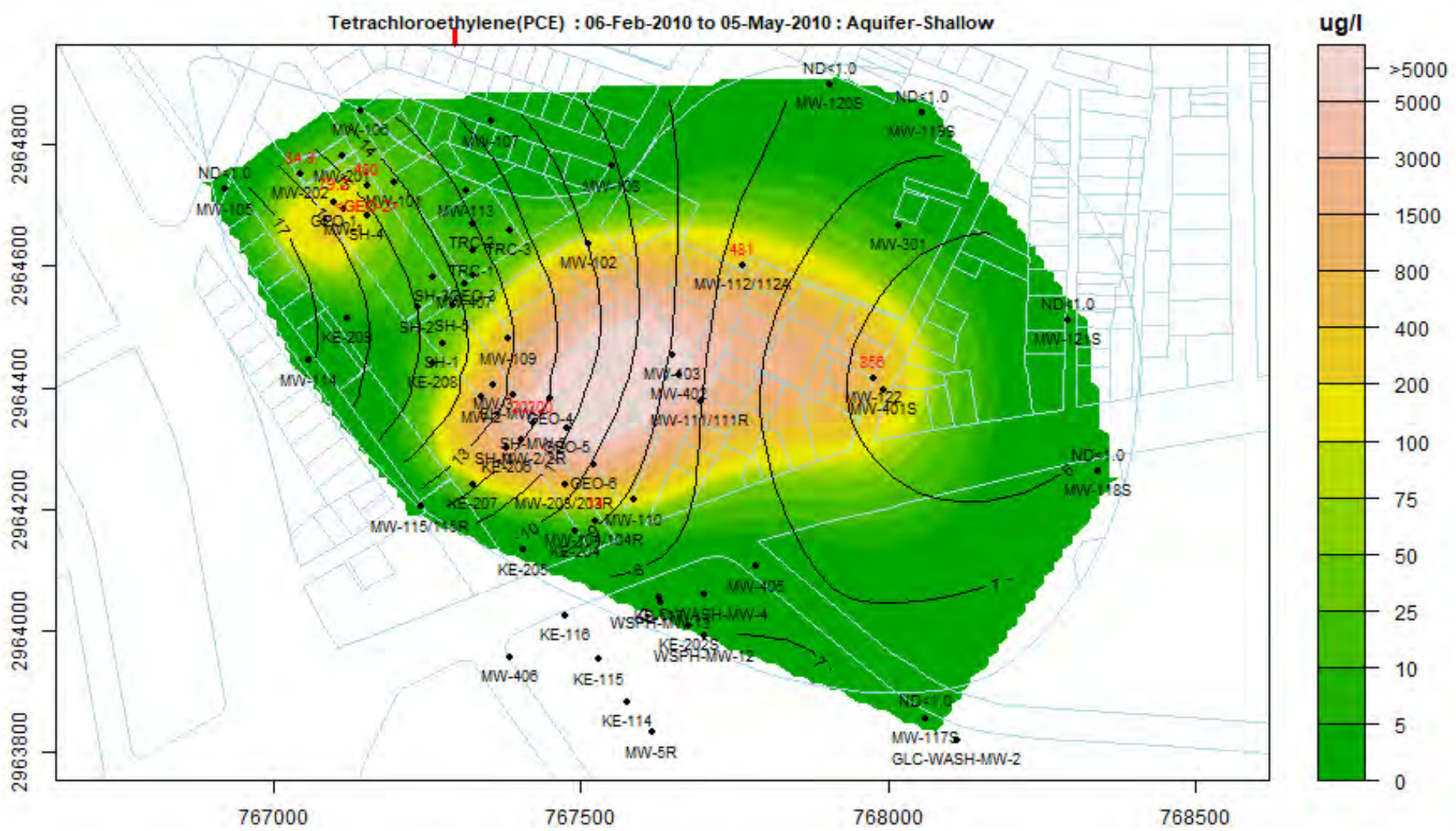
Tetrachloroethylene(PCE) : 06-Feb-2010 to 05-May-2010 : Aquifer-Shallow
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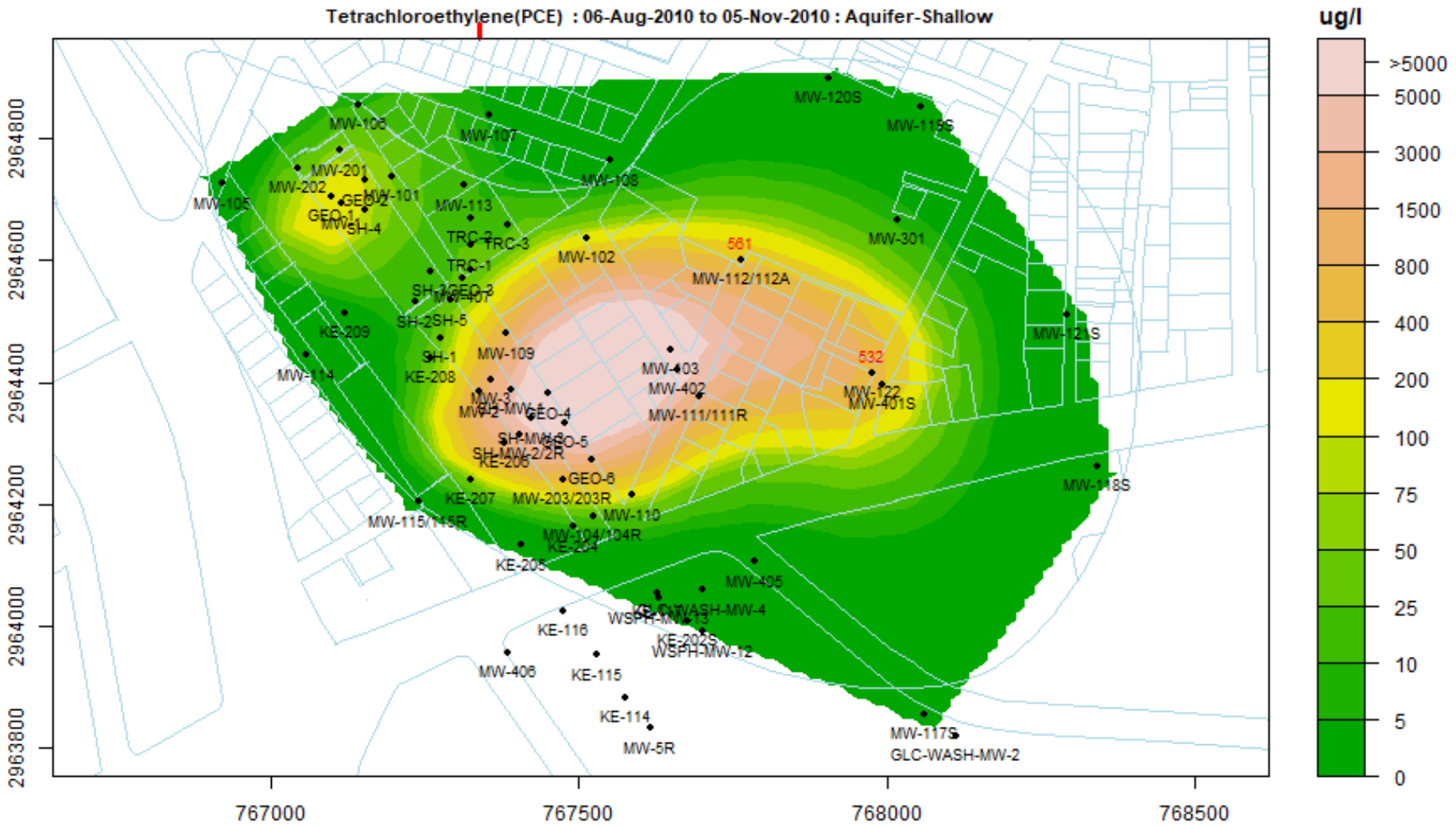
Tetrachloroethylene(PCE) : 06-Aug-2010 to 05-Nov-2010 : Aquifer-Shallow
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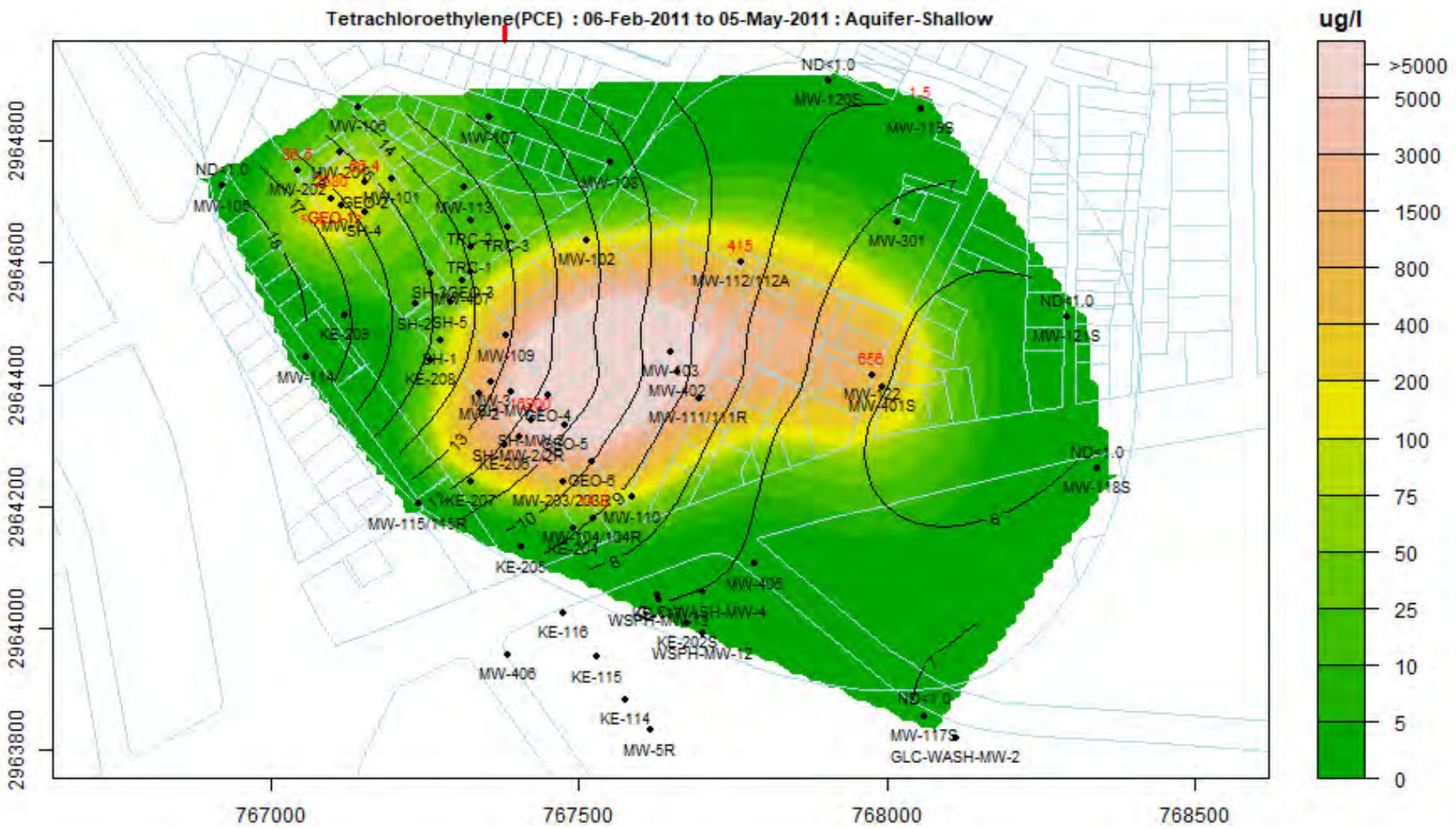
Tetrachloroethylene(PCE) : 06-Feb-2011 to 05-May-2011 : Aquifer-Shallow
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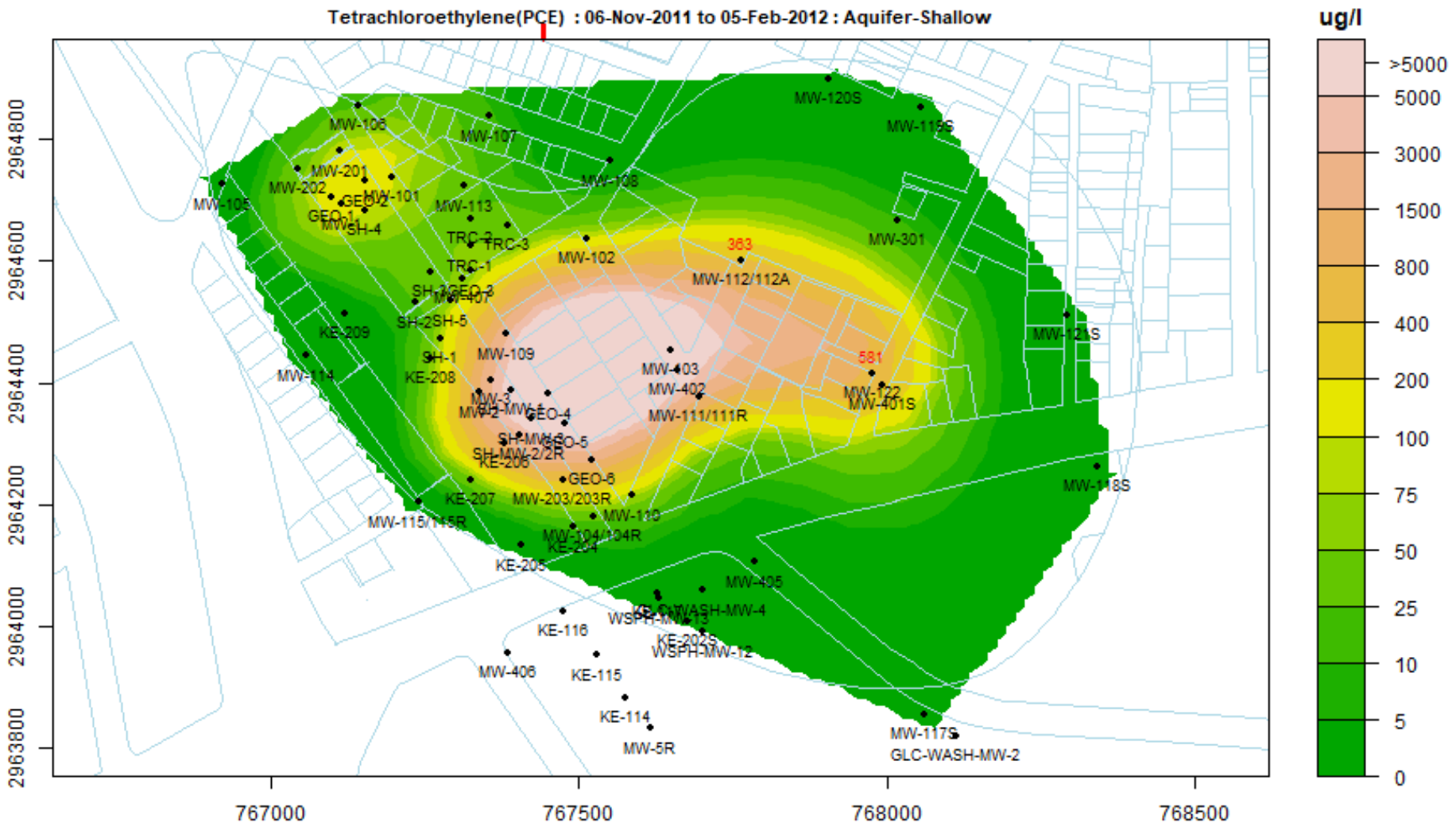
Tetrachloroethylene(PCE) : 06-Nov-2011 to 05-Feb-2012 : Aquifer-Shallow
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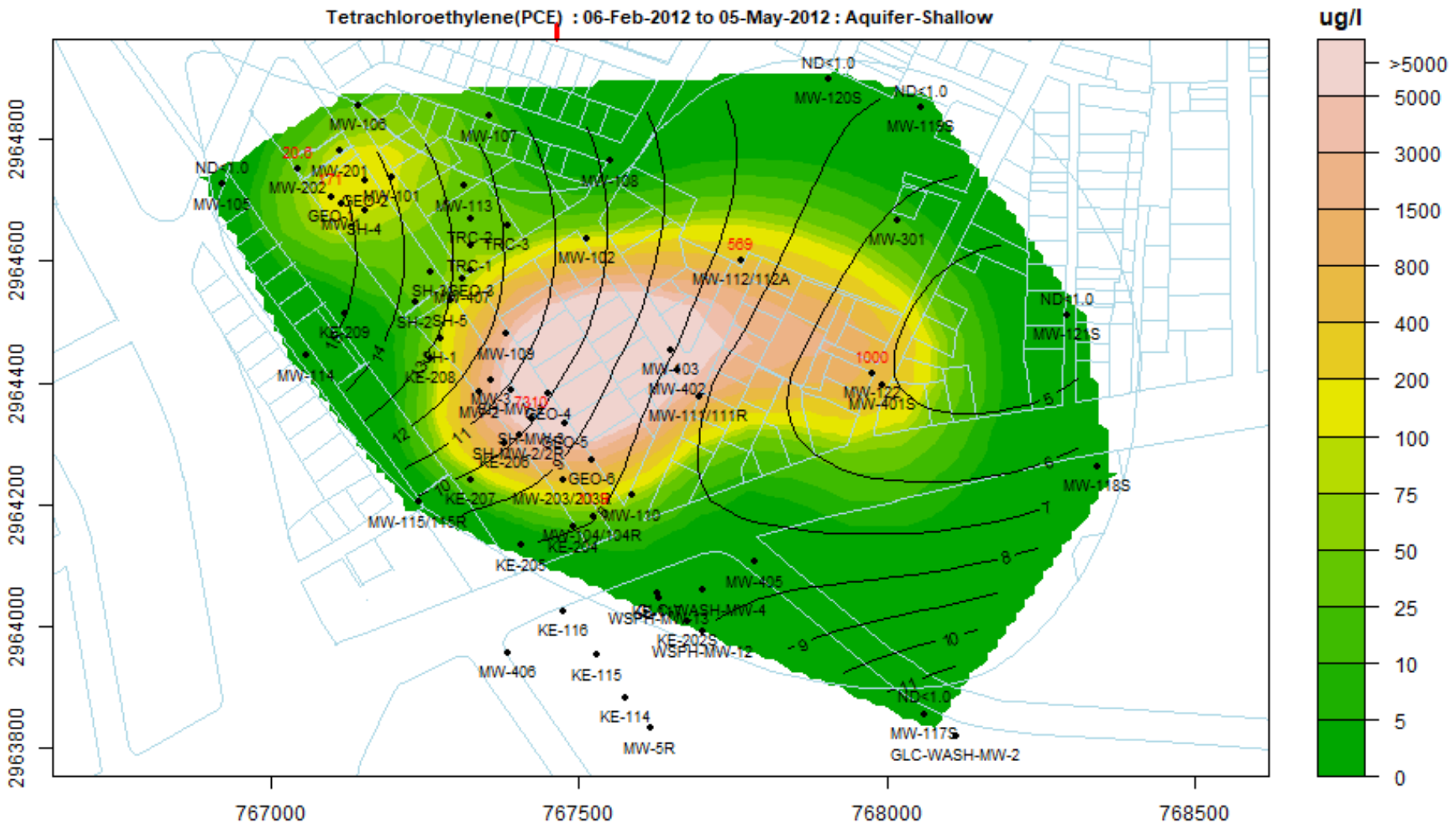
Tetrachloroethylene(PCE) : 06-Feb-2012 to 05-May-2012 : Aquifer-Shallow
ug/l
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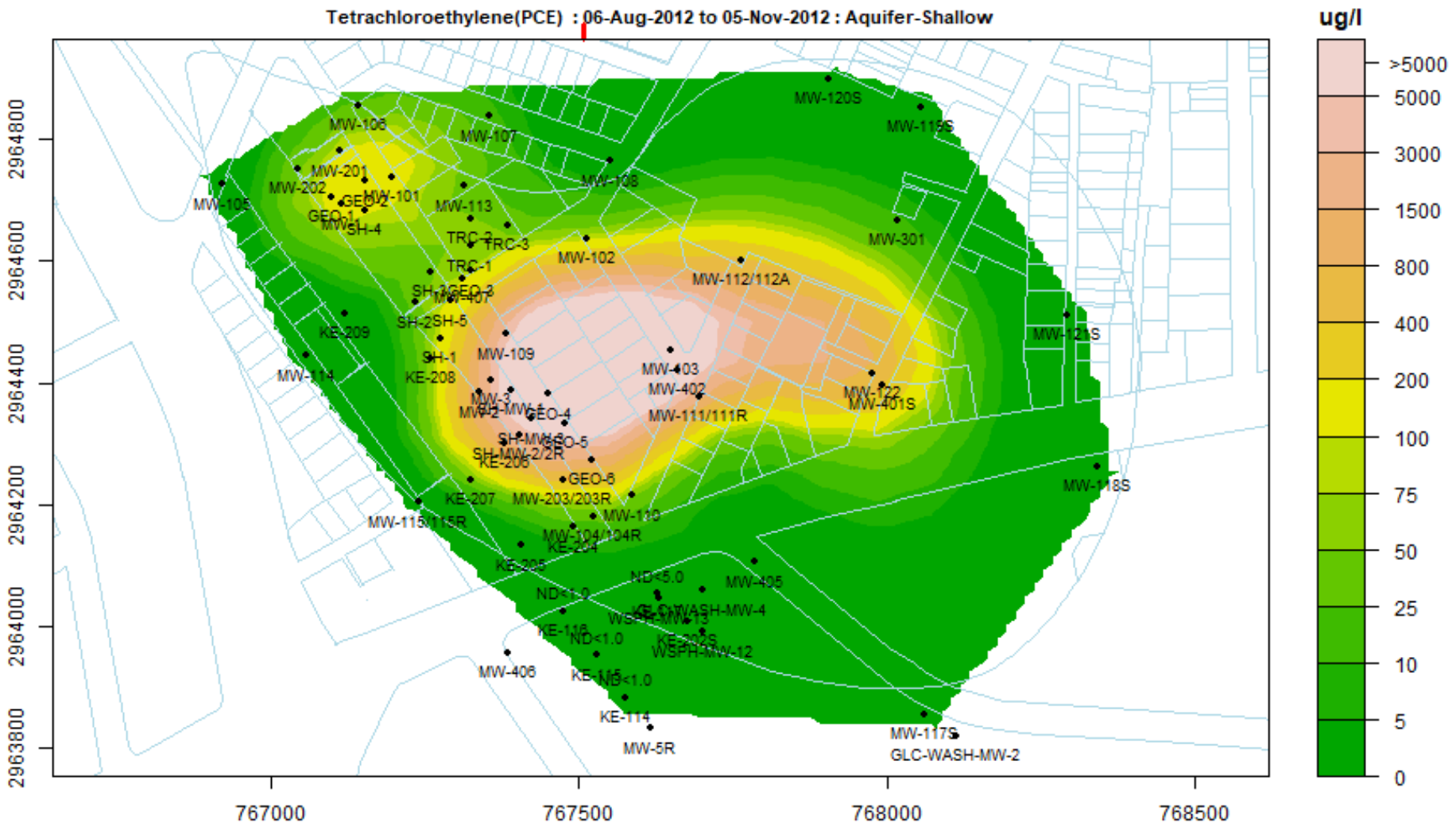
Tetrachloroethylene(PCE) : 06-Aug-2012 to 05-Nov-2012 : Aquifer-Shallow
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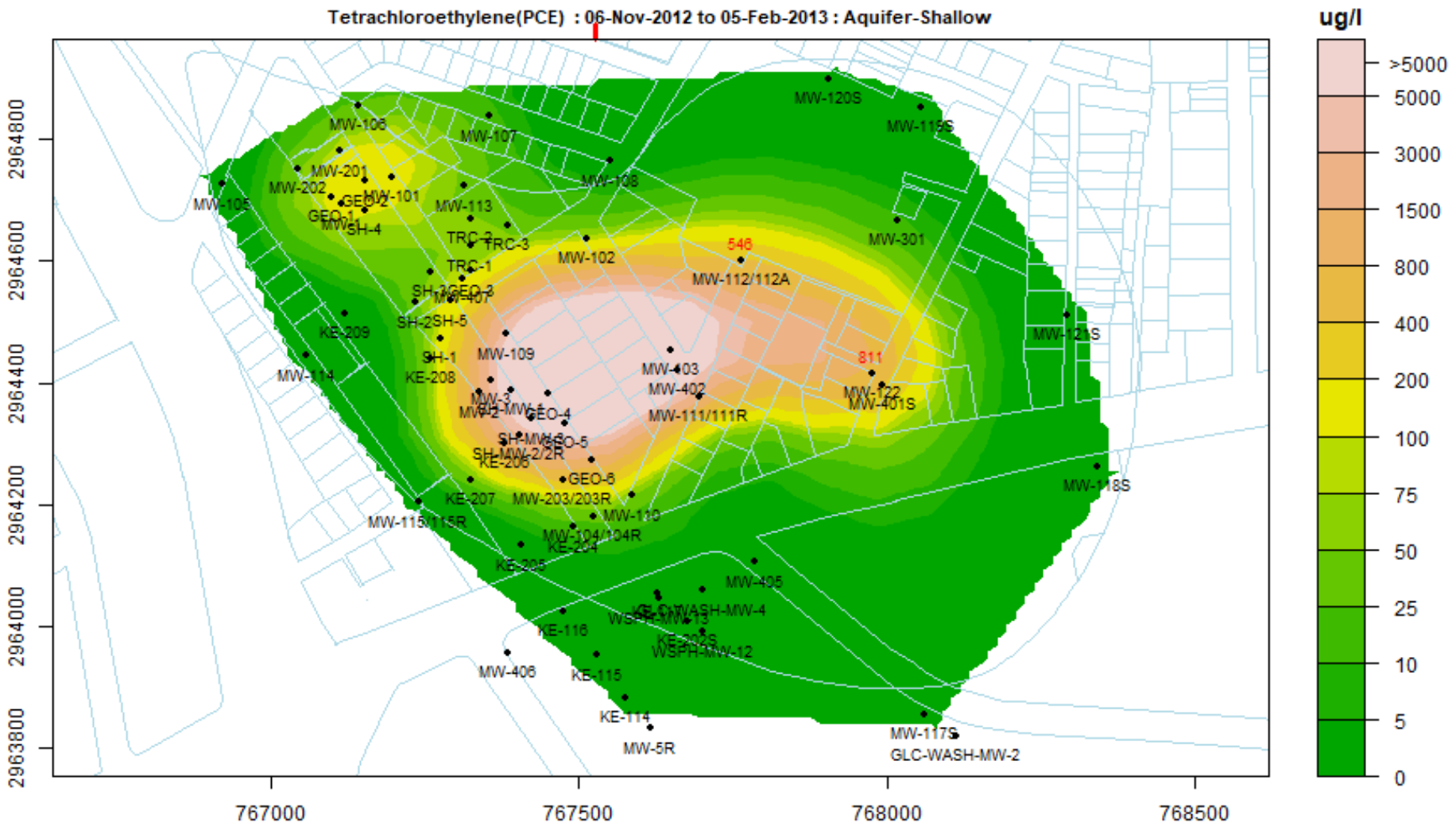
Tetrachloroethylene(PCE) : 06-Nov-2012 to 05-Feb-2013 : Aquifer-Shallow
ug/l
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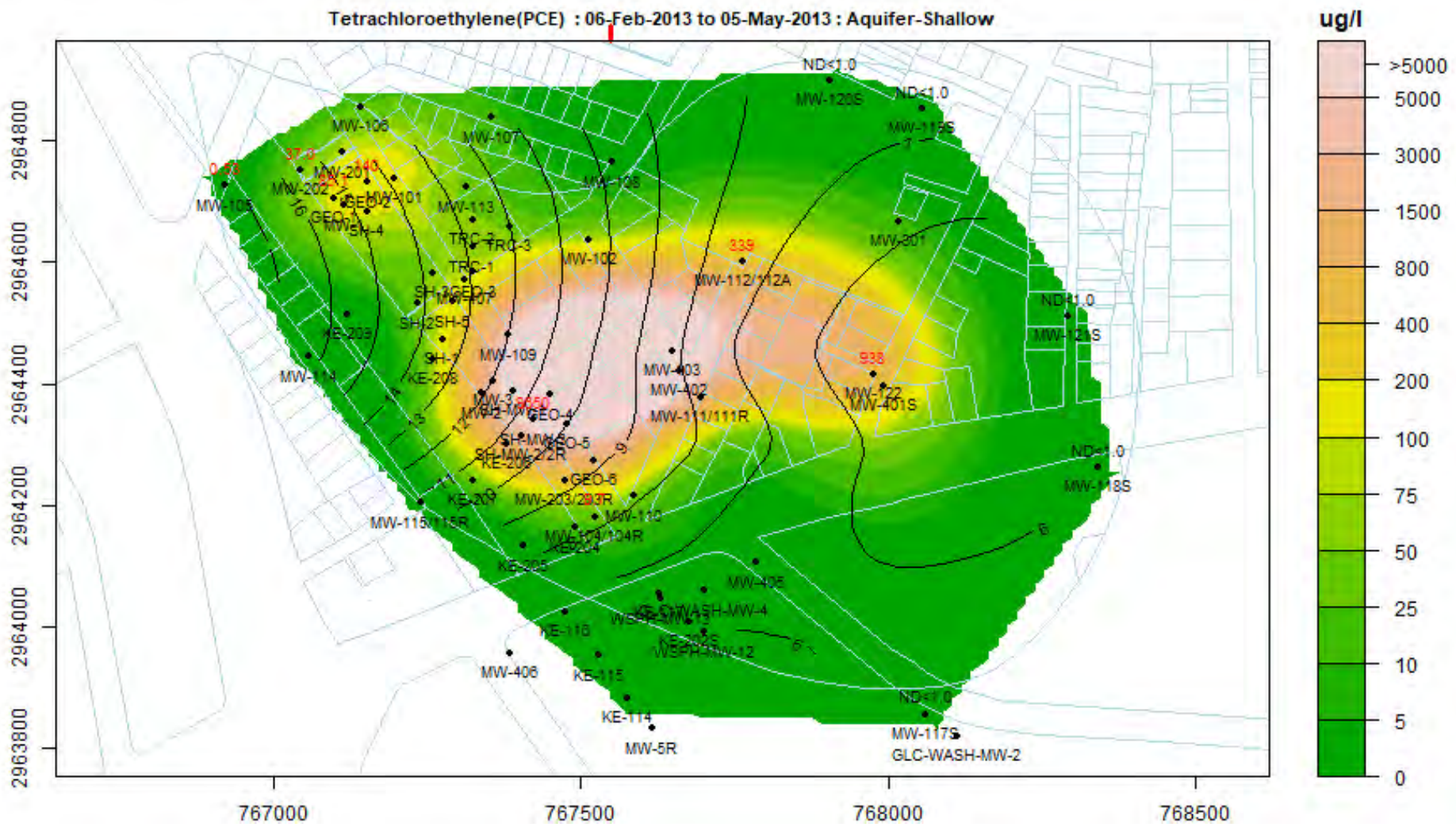
Tetrachloroethylene(PCE) : 06-Feb-2013 to 05-May-2013 : Aquifer-Shallow
ug/l
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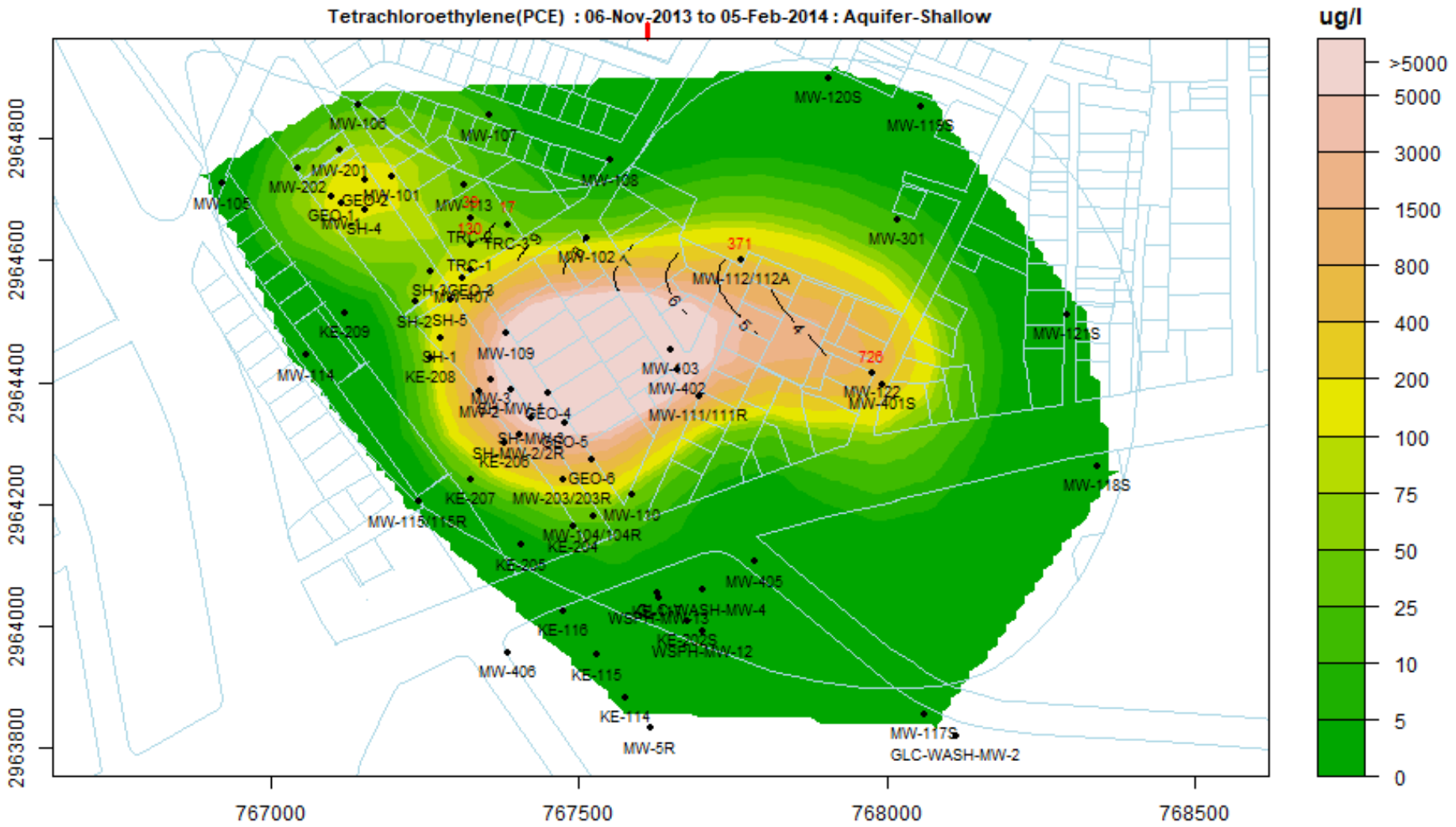
Tetrachloroethylene(PCE) : 06-Nov-2013 to 05-Feb-2014 : Aquifer-Shallow
ug/l
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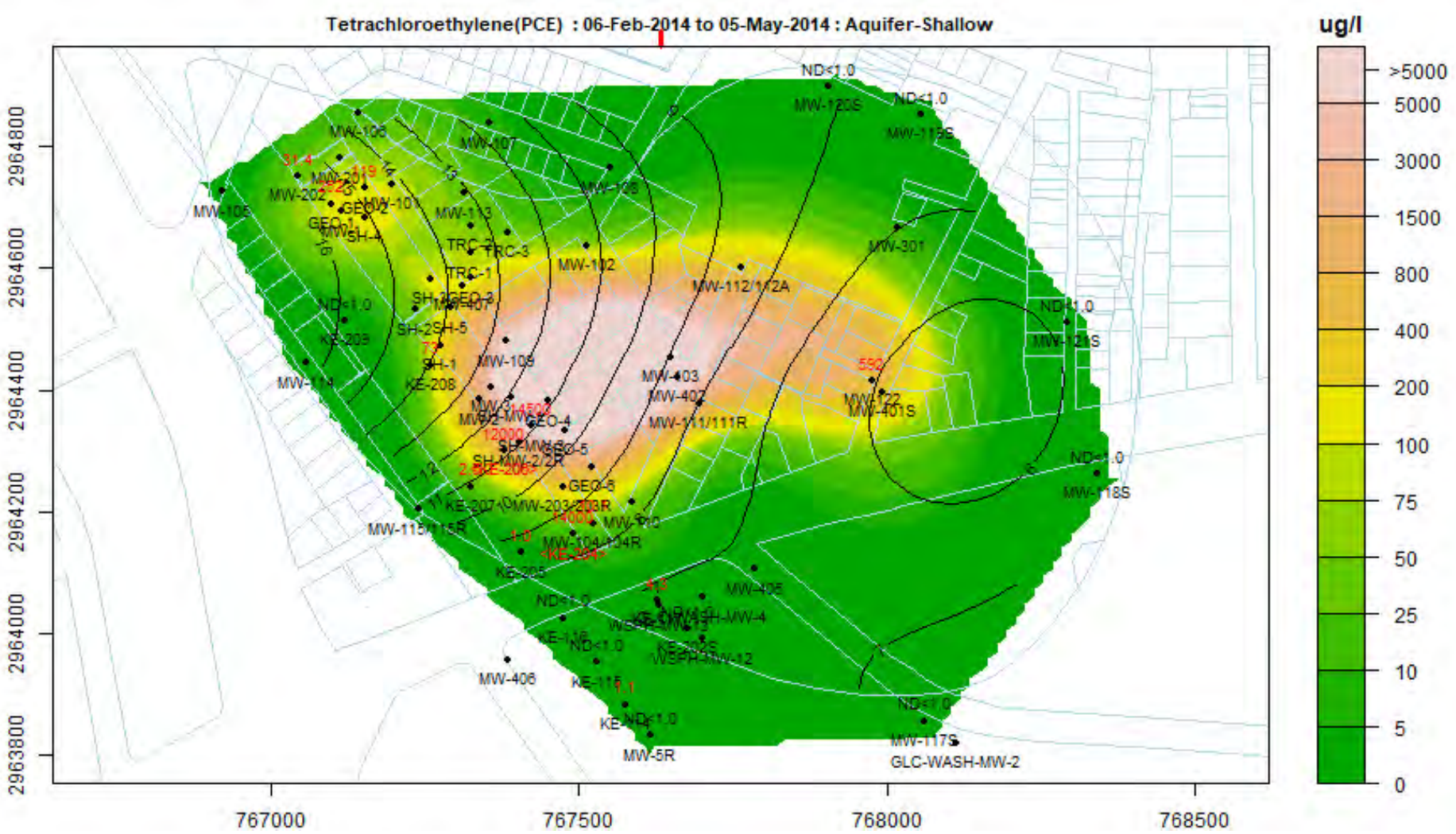
Tetrachloroethylene(PCE) : 06-Feb-2014 to 05-May-2014 : Aquifer-Shallow
ug/l
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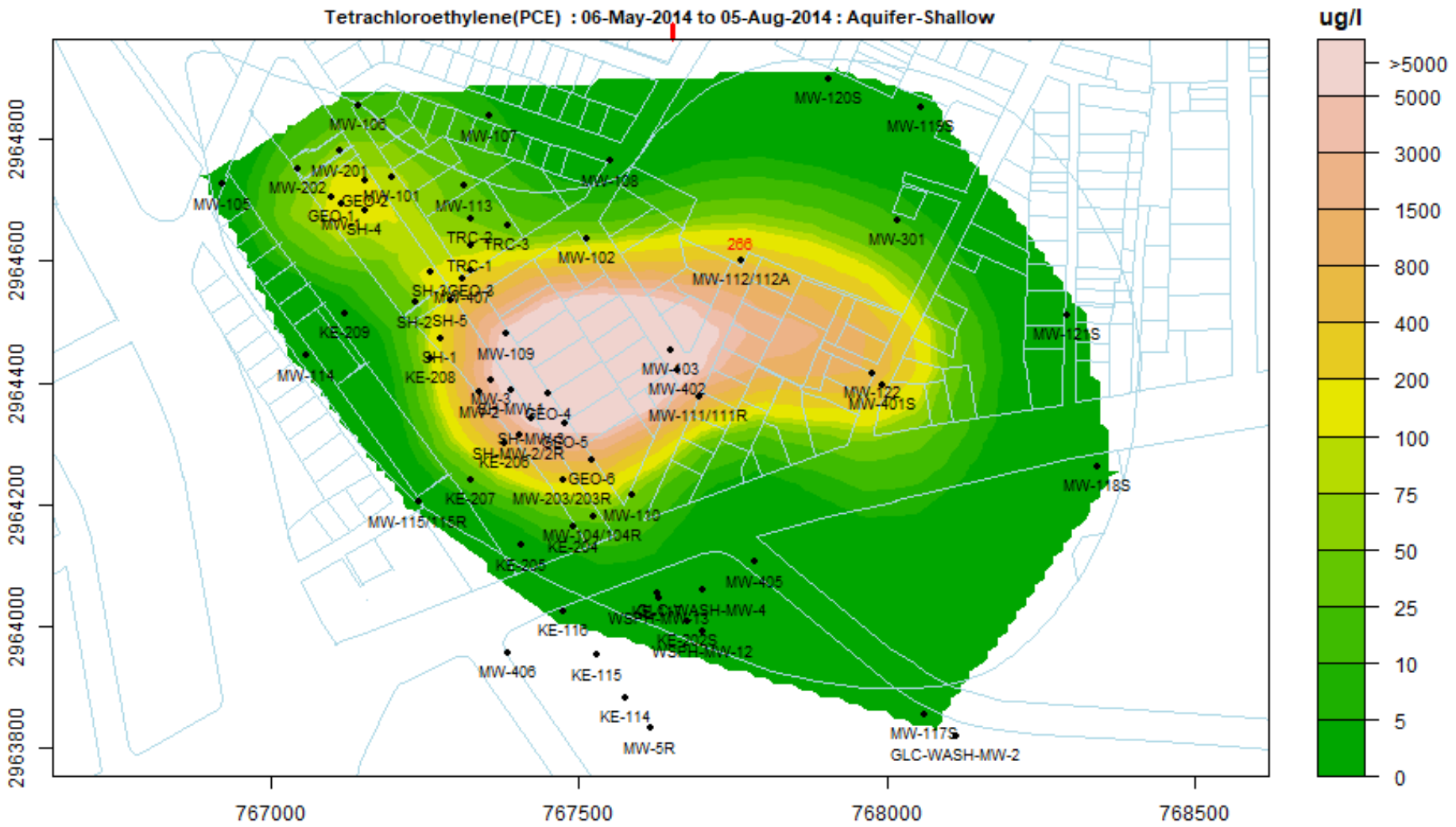
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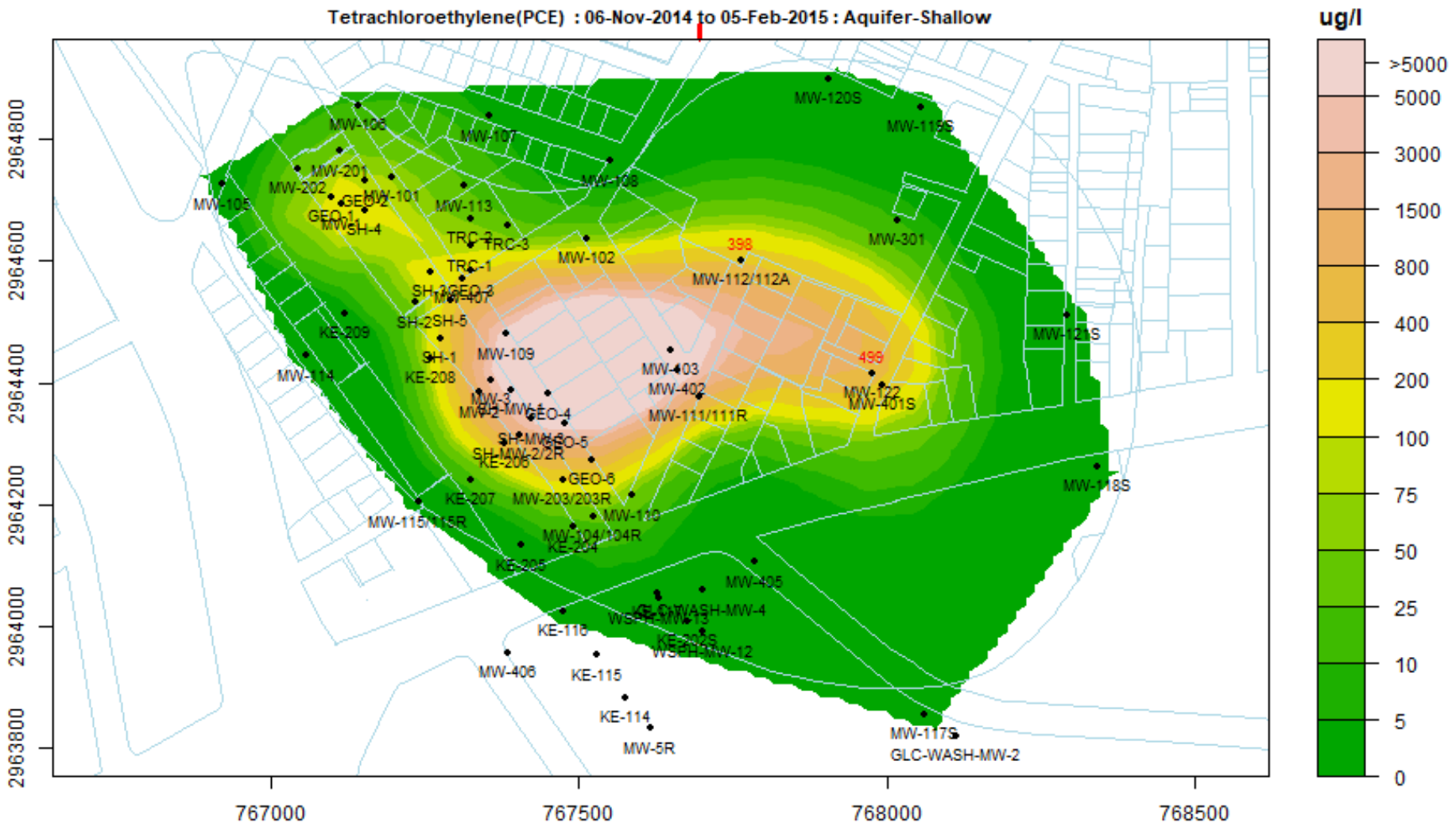
Tetrachloroethylene(PCE) : 06-Nov-2014 to 05-Feb-2015 : Aquifer-Shallow
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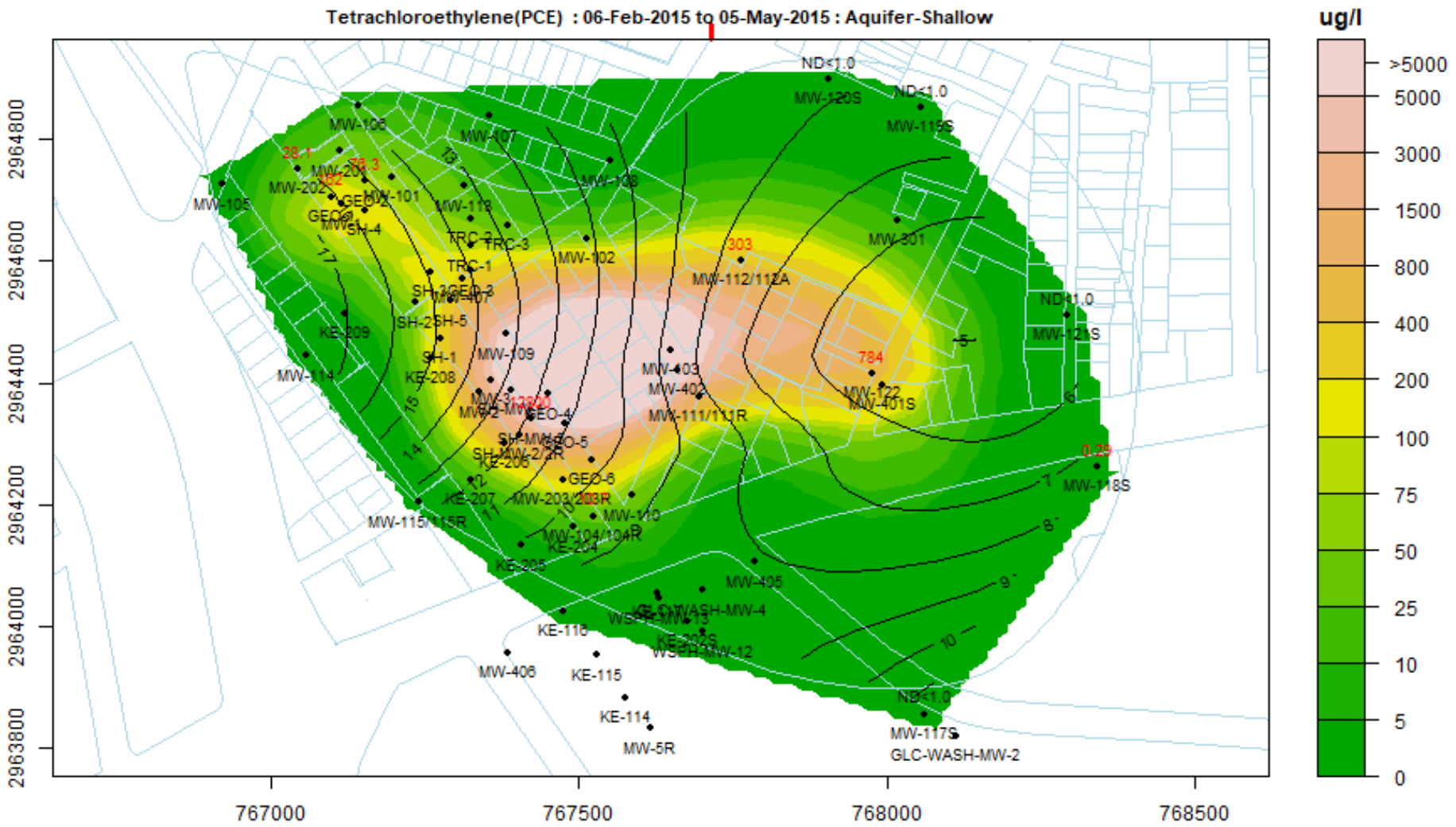
Tetrachloroethylene(PCE) : 06-Feb-2015 to 05-May-2015 : Aquifer-Shallow
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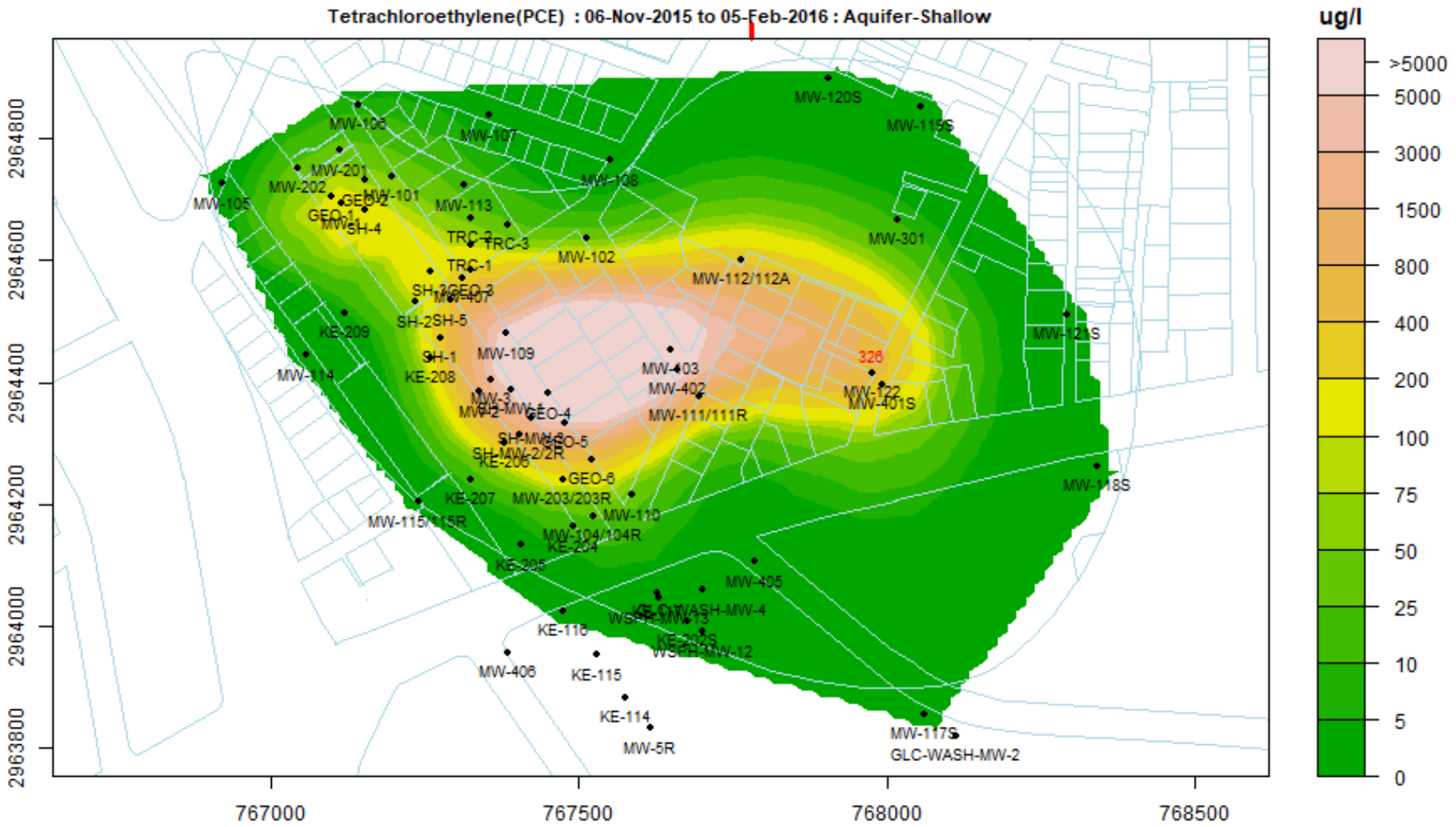
Tetrachloroethylene(PCE) : 06-Nov-2015 to 05-Feb-2016 : Aquifer-Shallow
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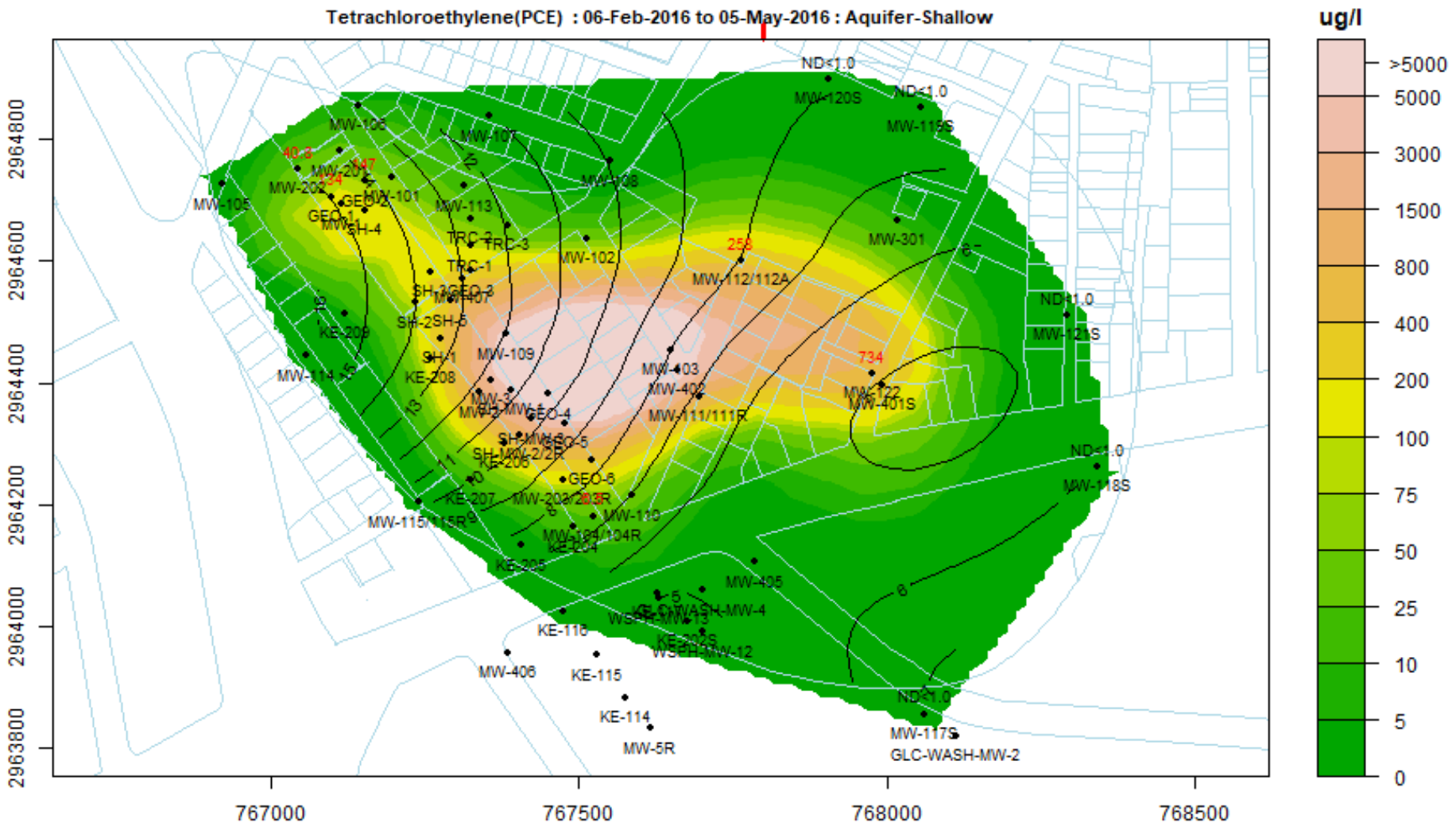
Tetrachloroethylene(PCE) : 06-Feb-2016 to 05-May-2016 : Aquifer-Shallow
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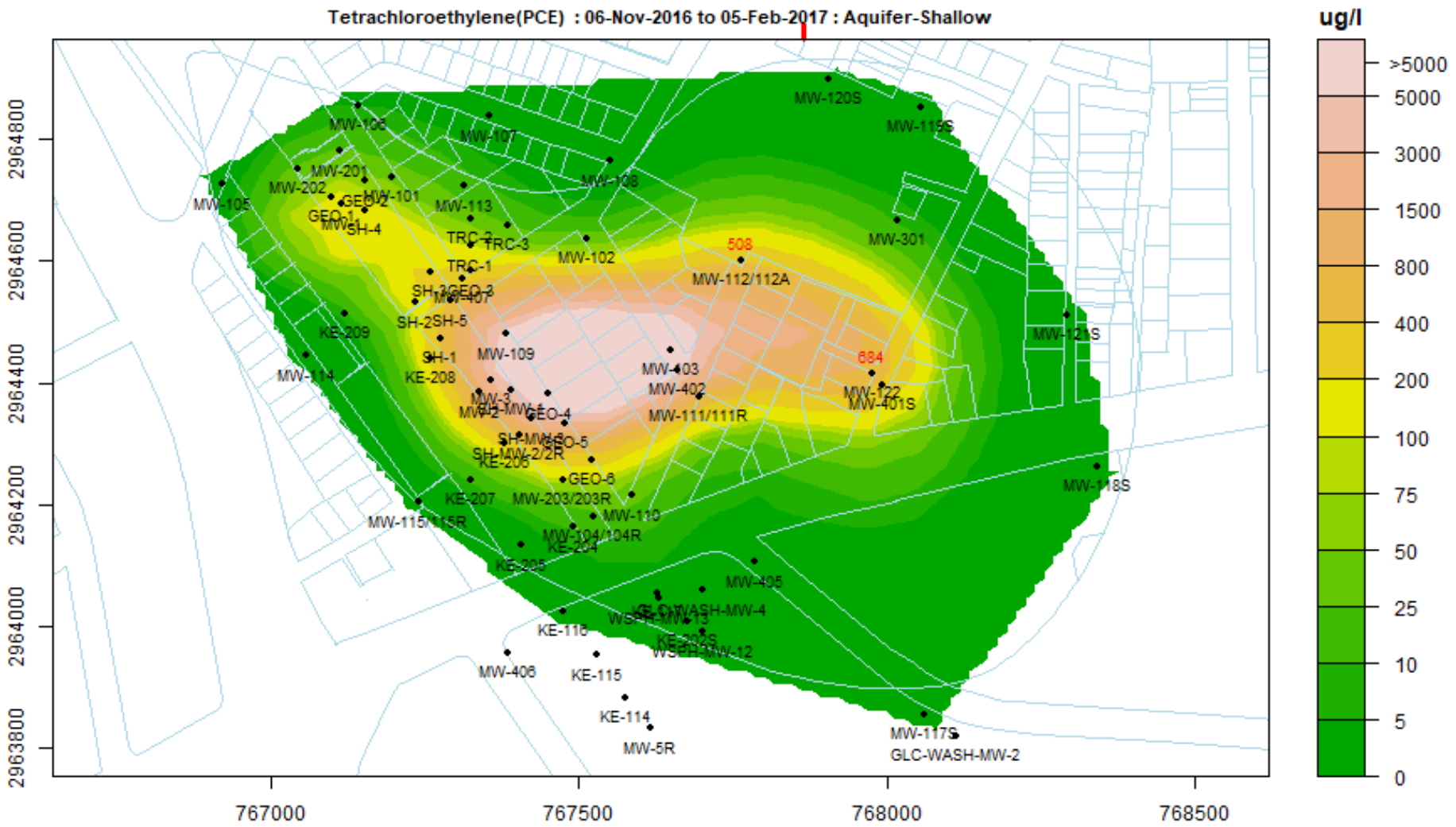
Tetrachloroethylene(PCE) : 06-Nov-2016 to 05-Feb-2017 : Aquifer-Shallow
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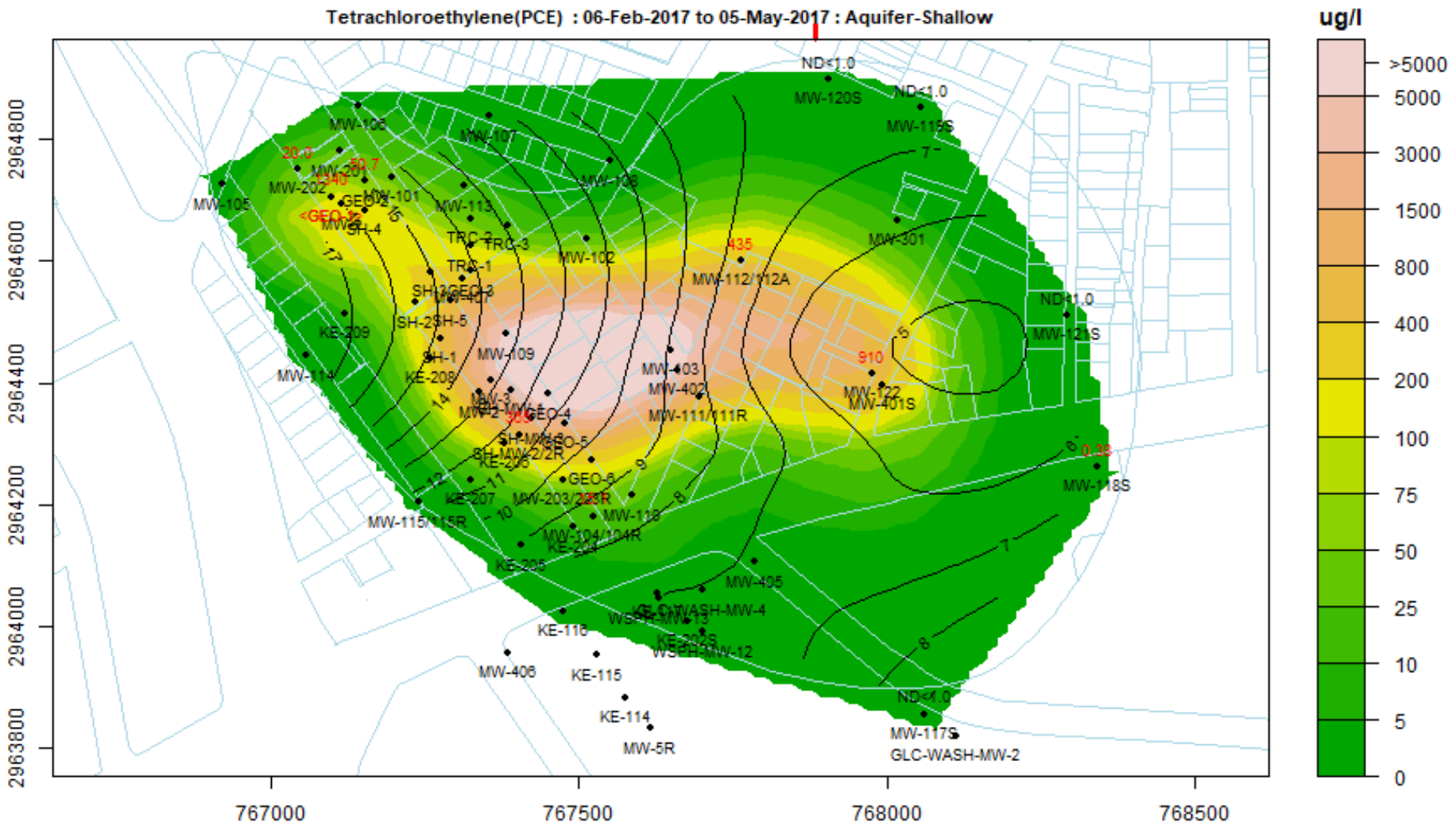
Tetrachloroethylene(PCE) : 06-Feb-2017 to 05-May-2017 : Aquifer-Shallow
ug/l
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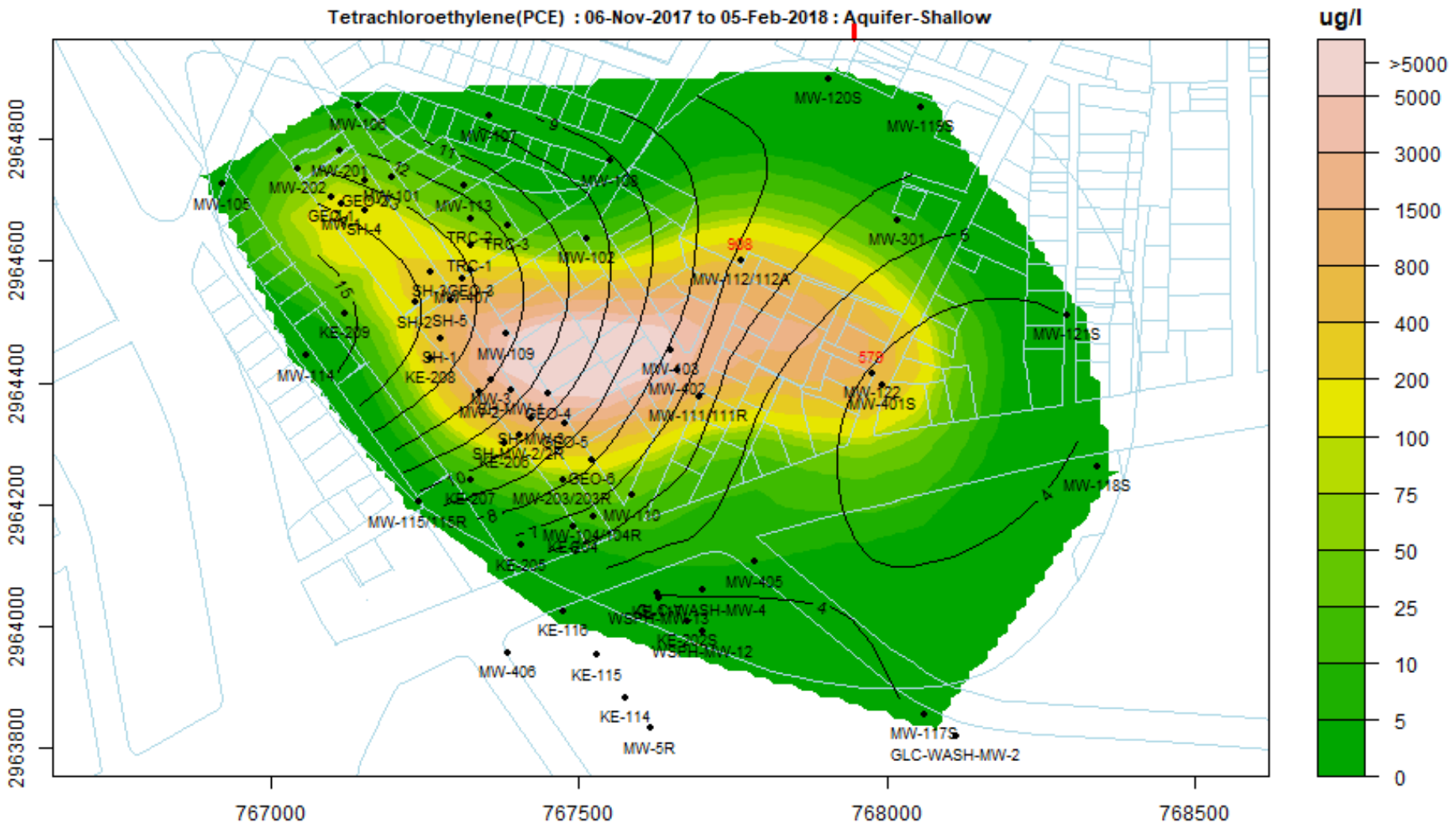
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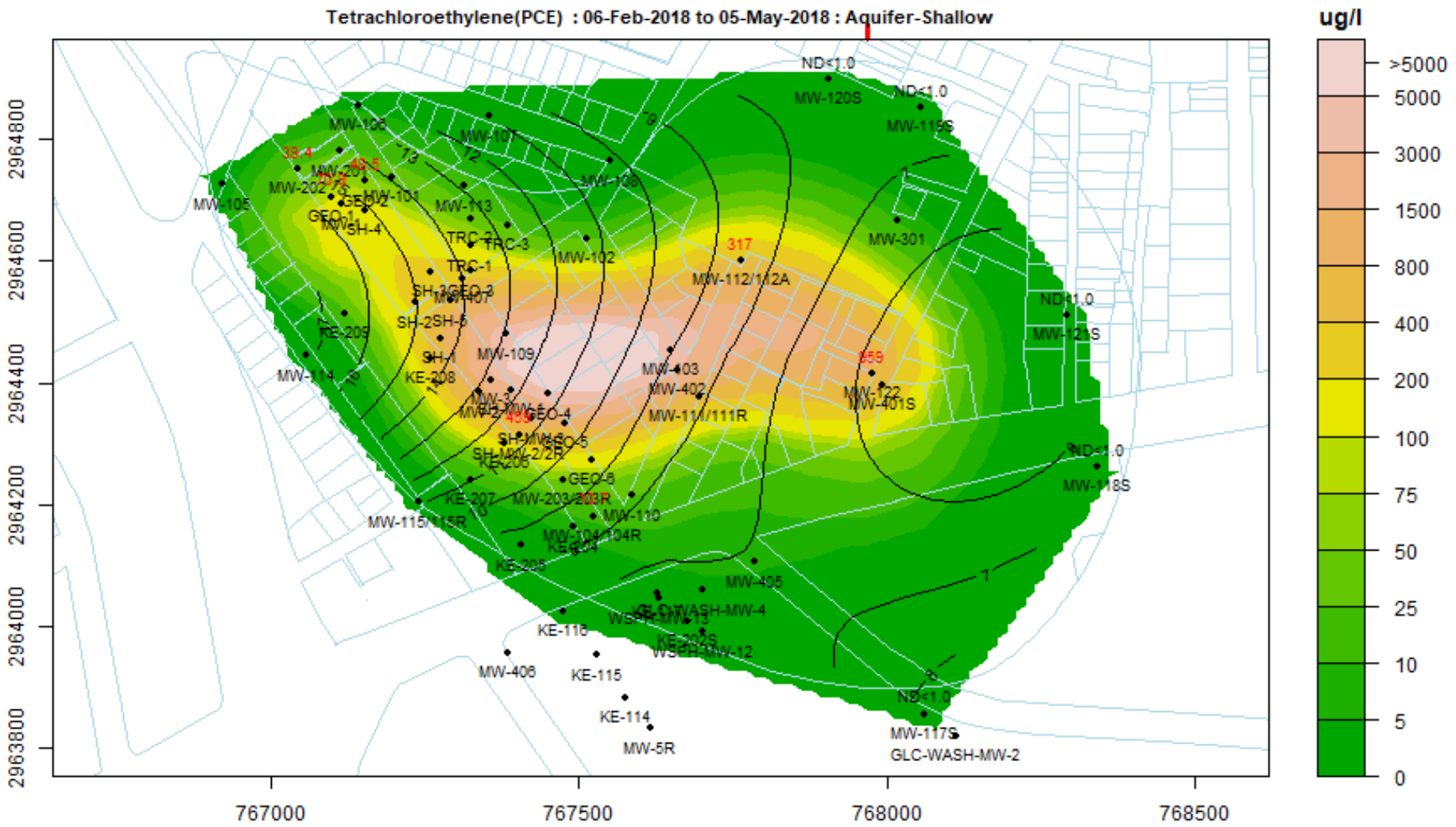
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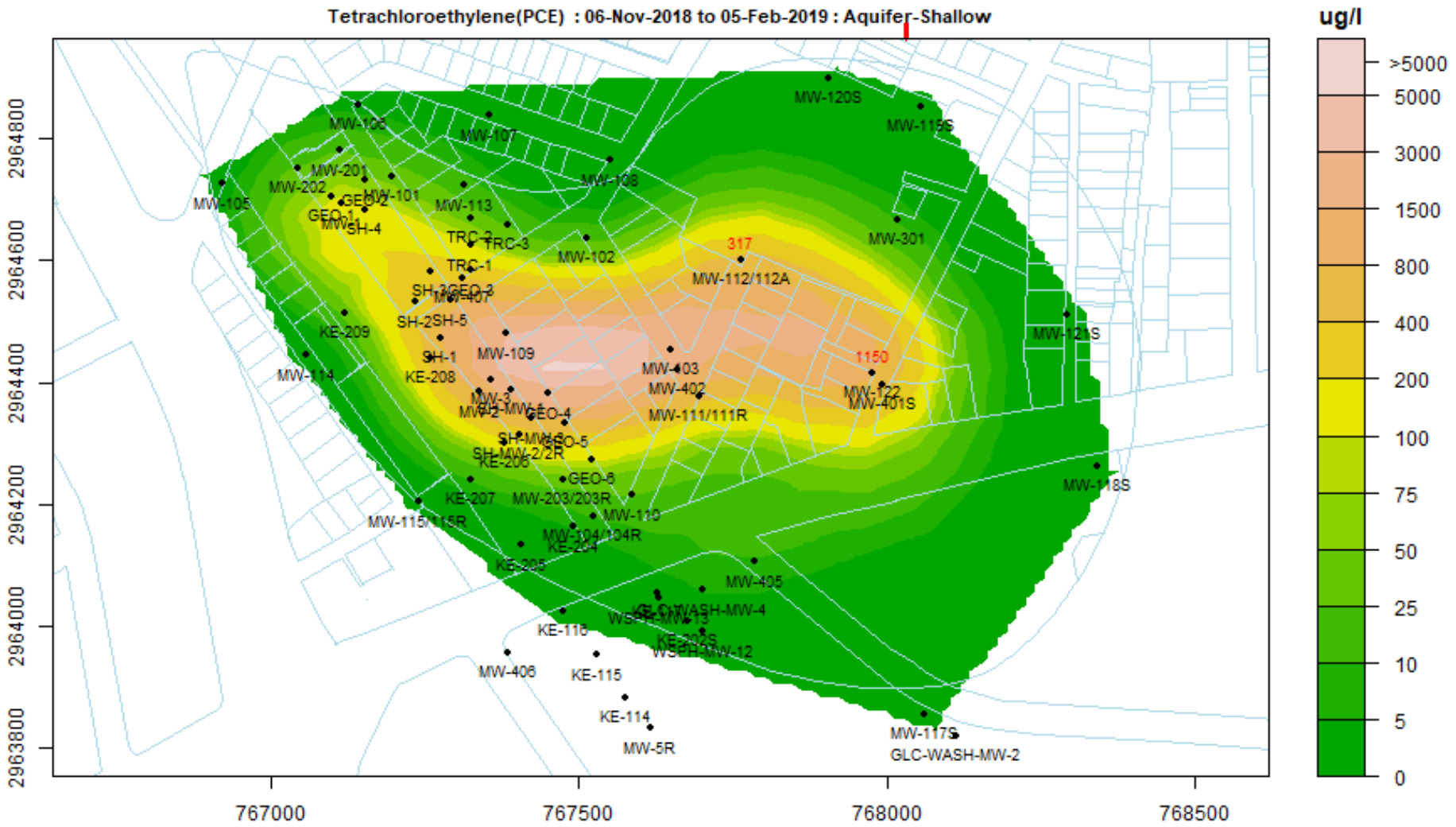
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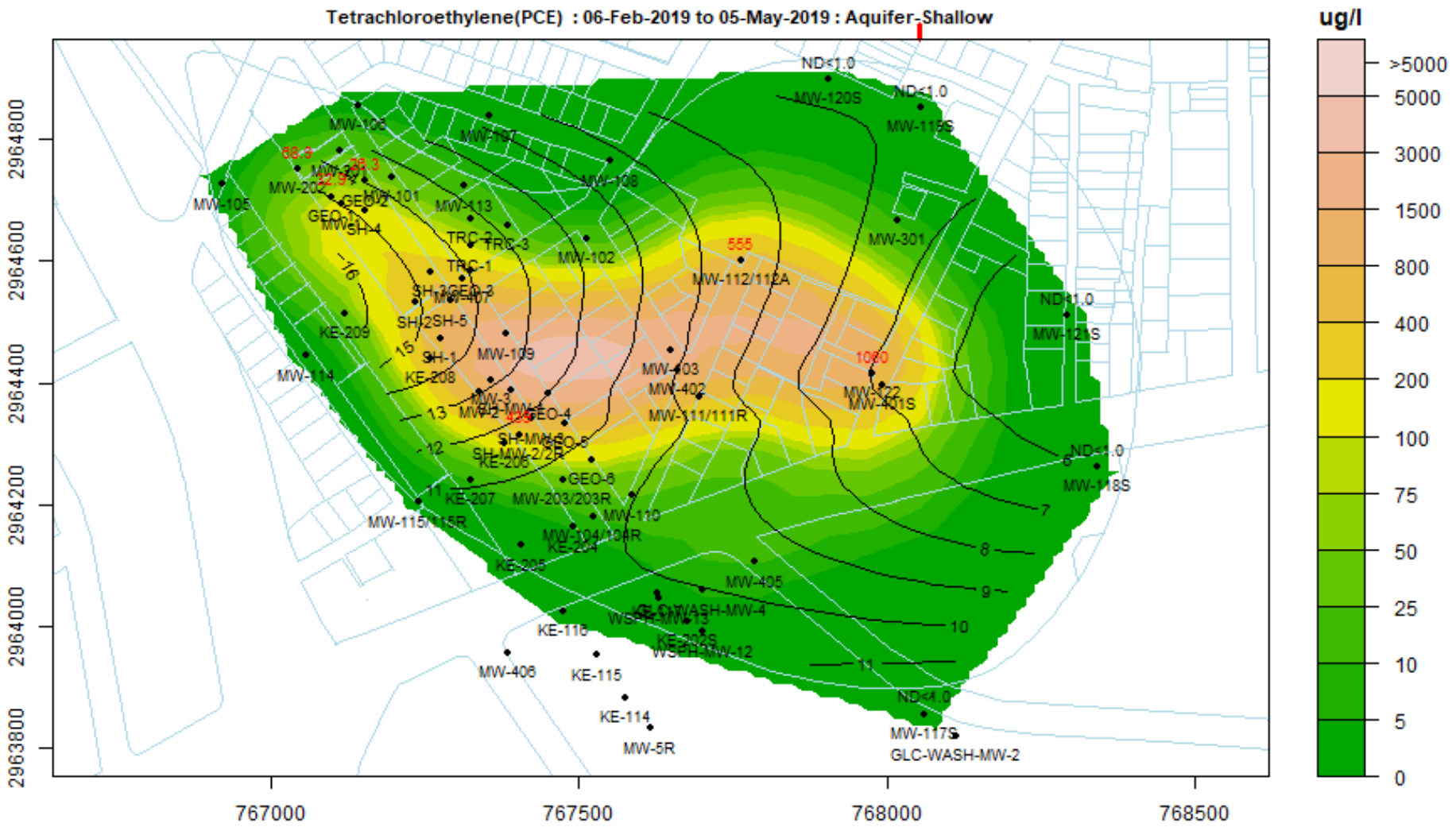
Tetrachloroethylene(PCE) : 06-Feb-2019 to 05-May-2019 : Aquifer-Shallow
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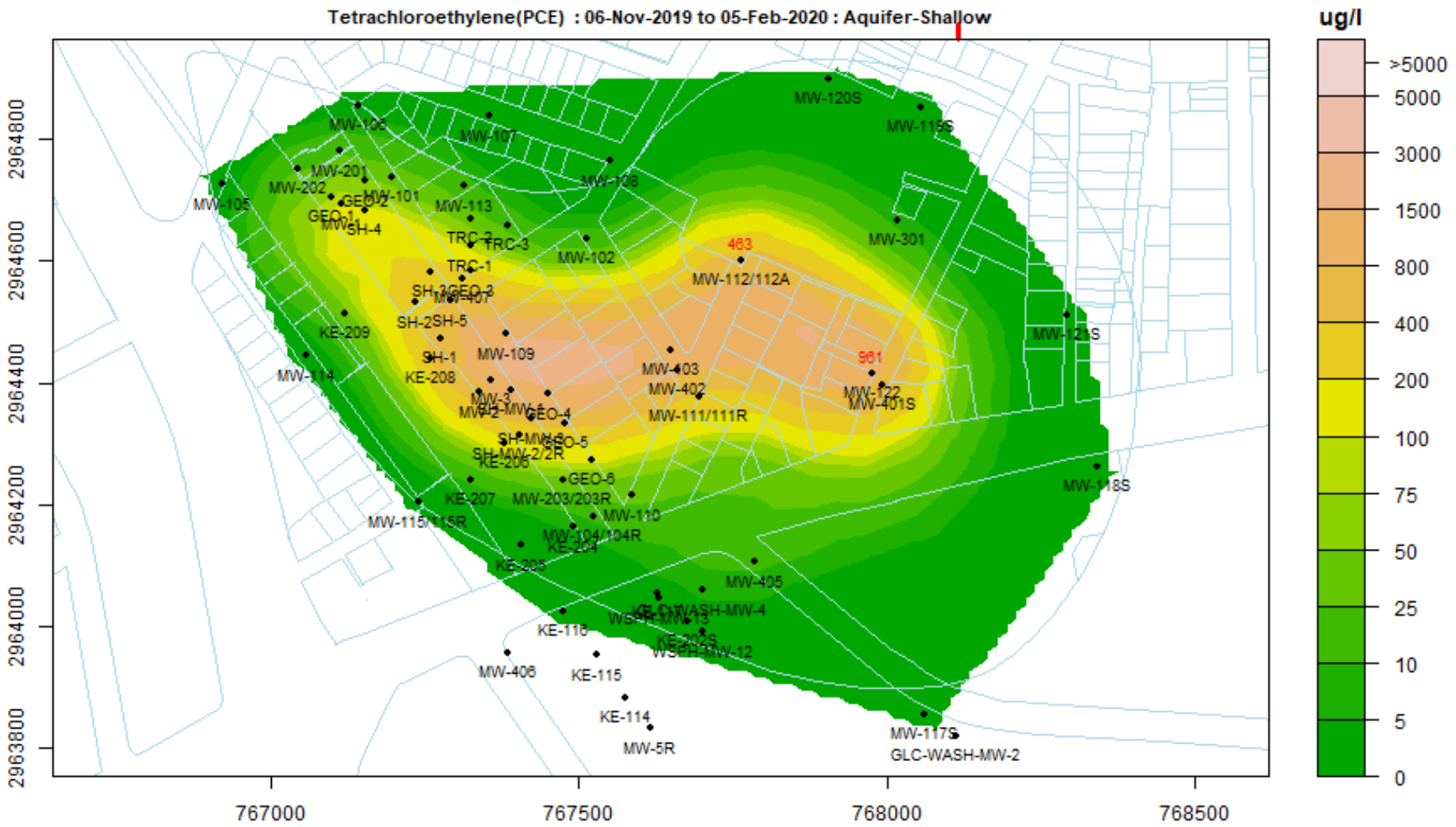
Tetrachloroethylene(PCE) : 06-Nov-2019 to 05-Feb-2020 : Aquifer-Shallow
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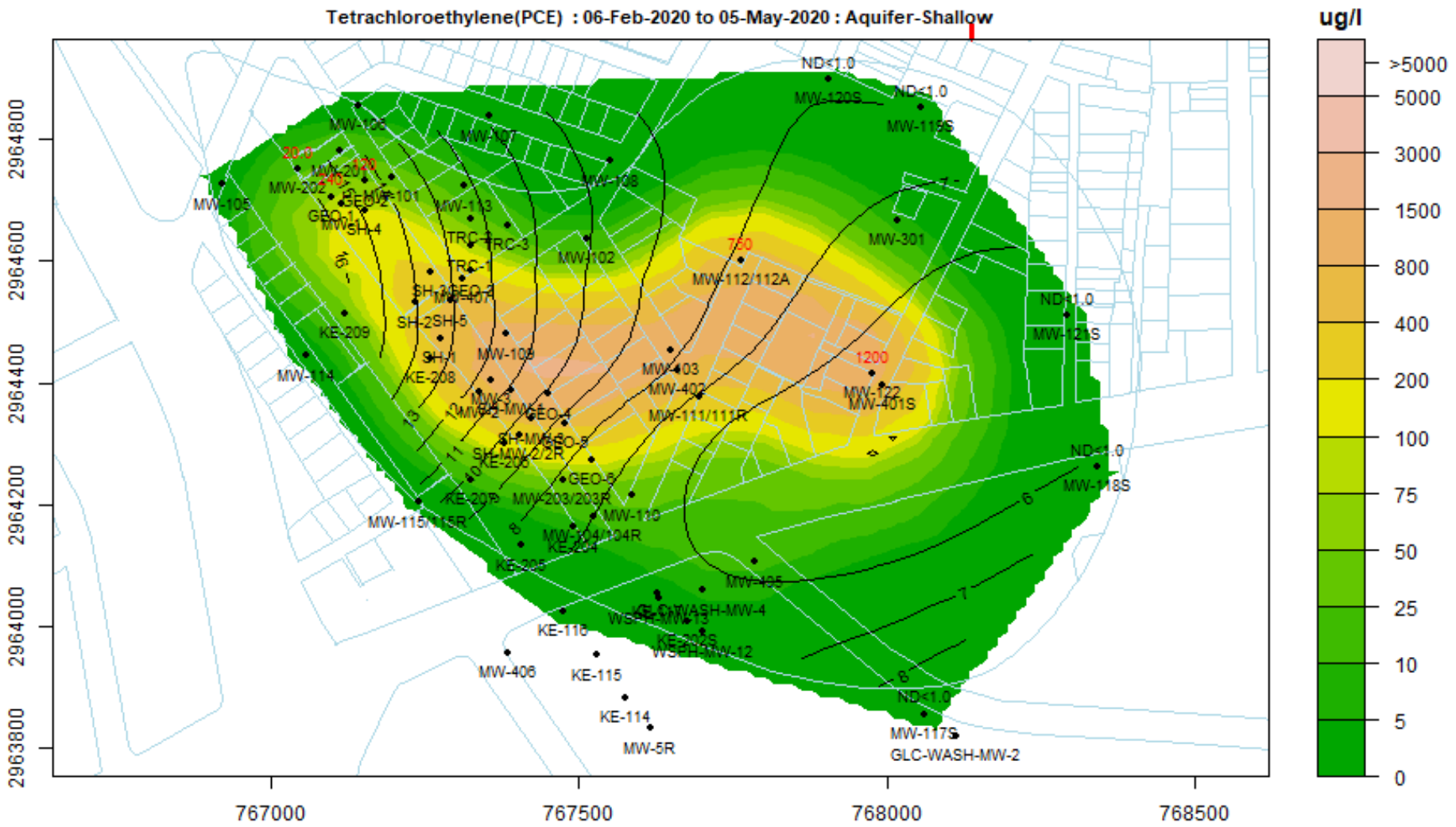
Tetrachloroethylene(PCE) : 06-Feb-2020 to 05-May-2020 : Aquifer-Shallow
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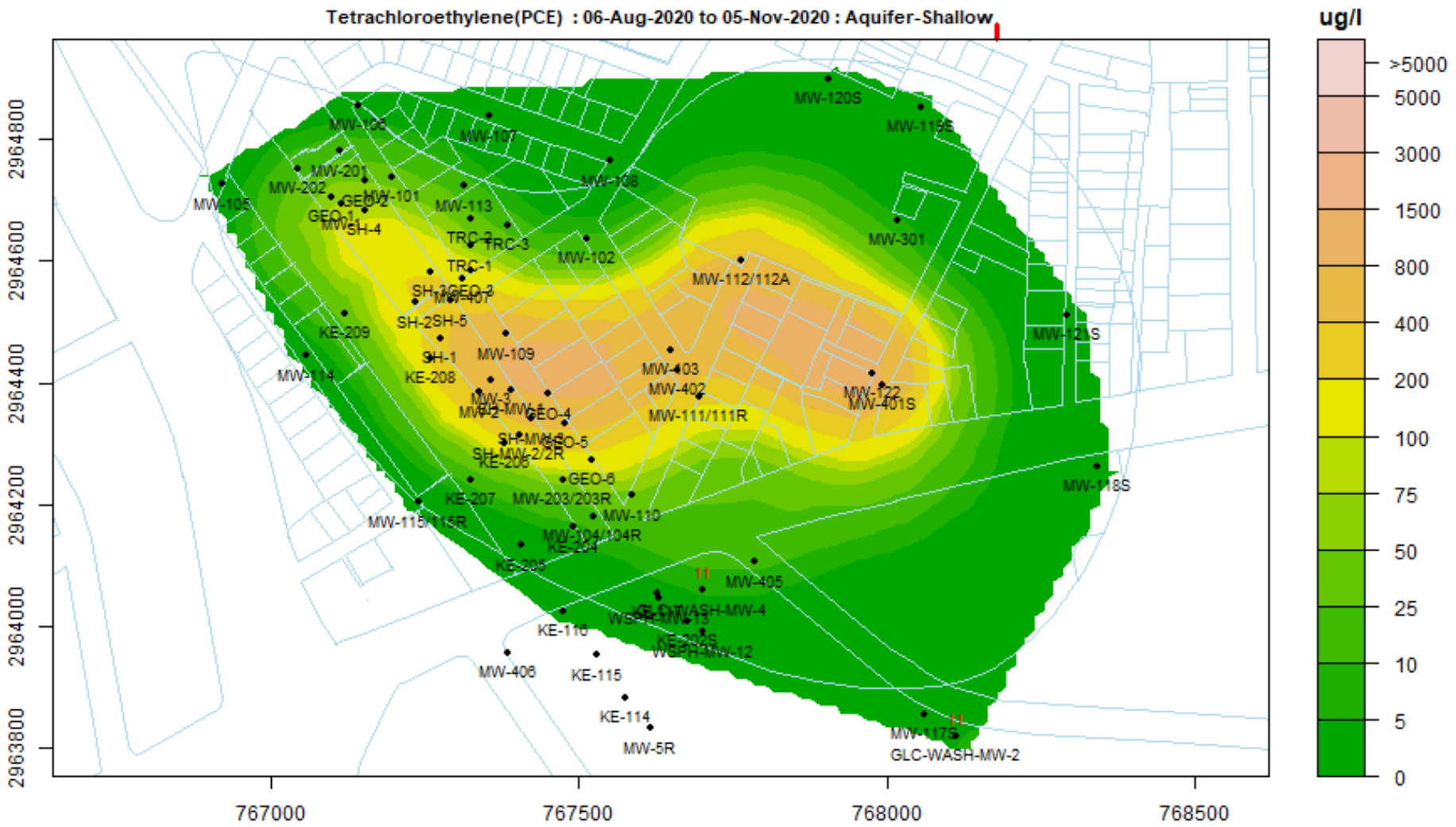
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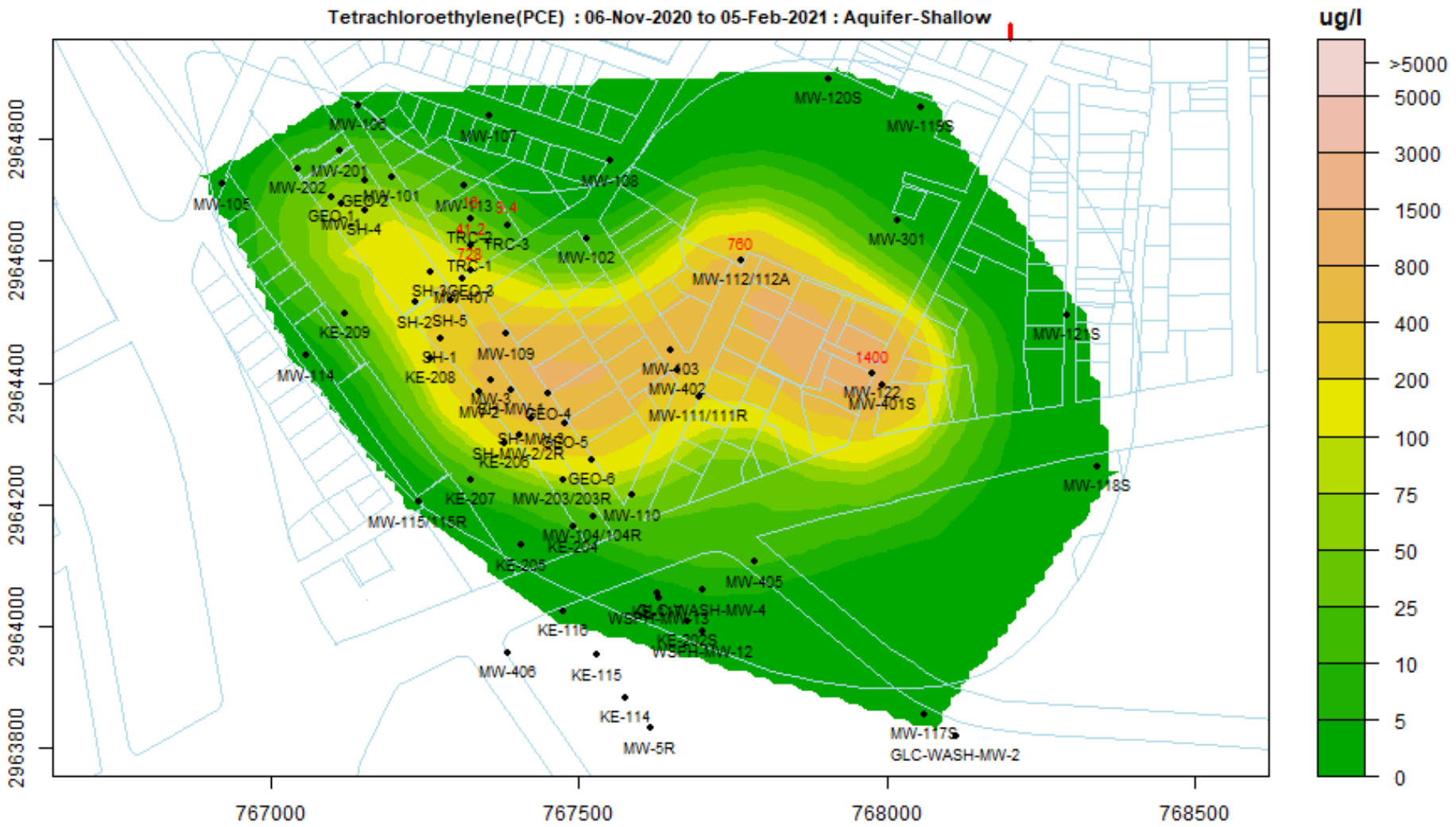
Tetrachloroethylene(PCE) : 06-Nov-2020 to 05-Feb-2021 : Aquifer-Shallow
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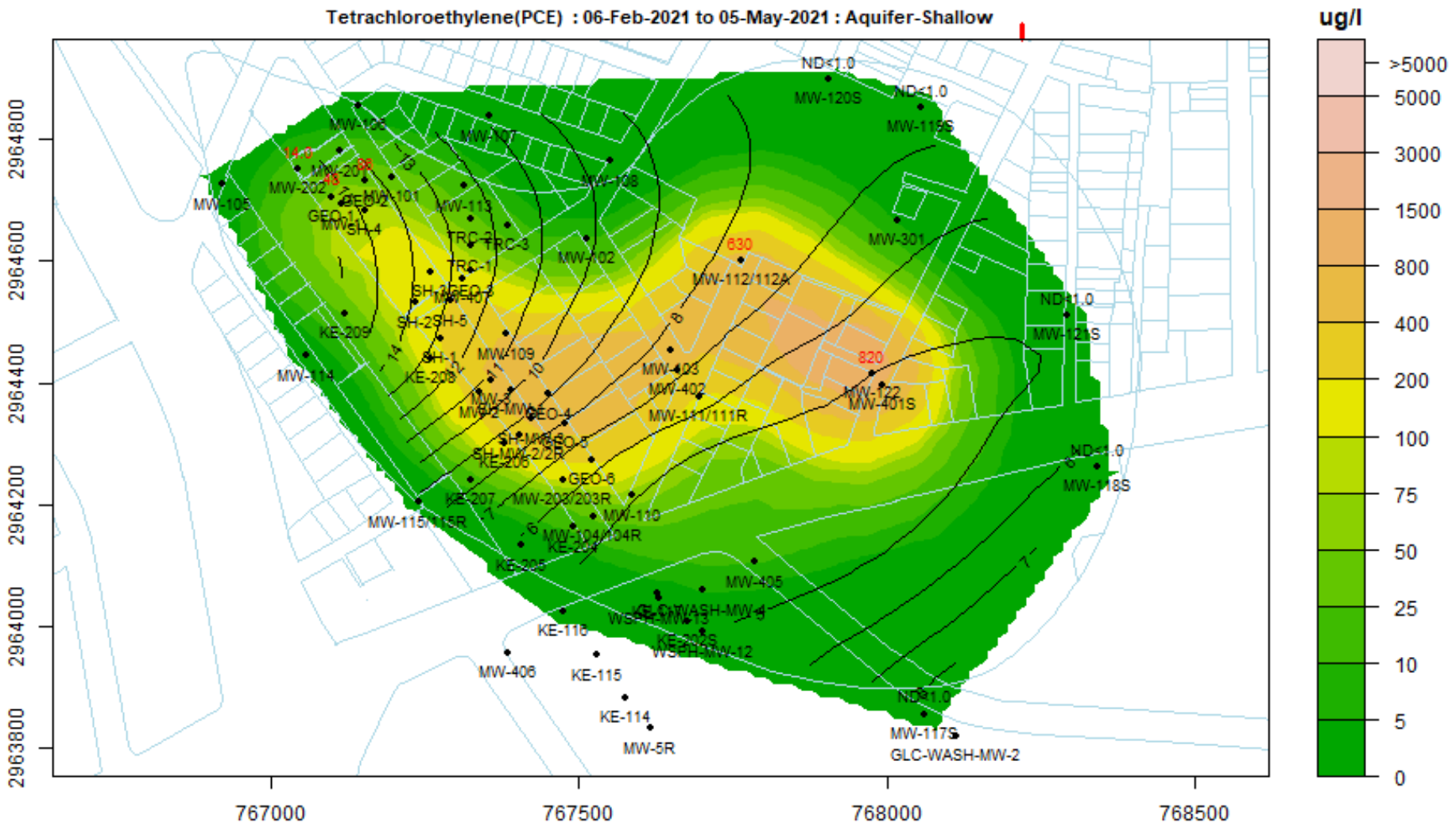
Tetrachloroethylene(PCE) : 06-Feb-2021 to 05-May-2021 : Aquifer-Shallow
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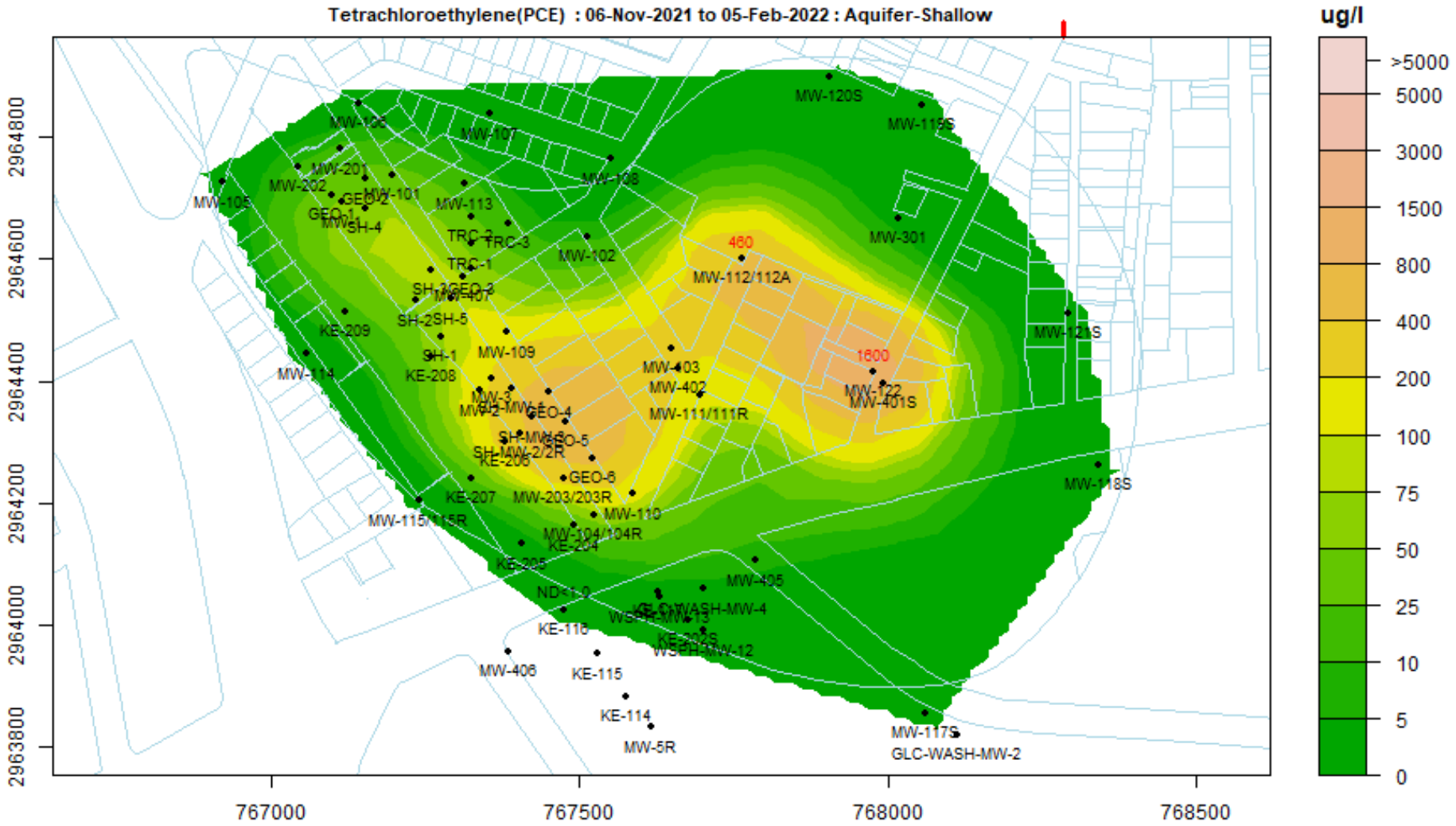
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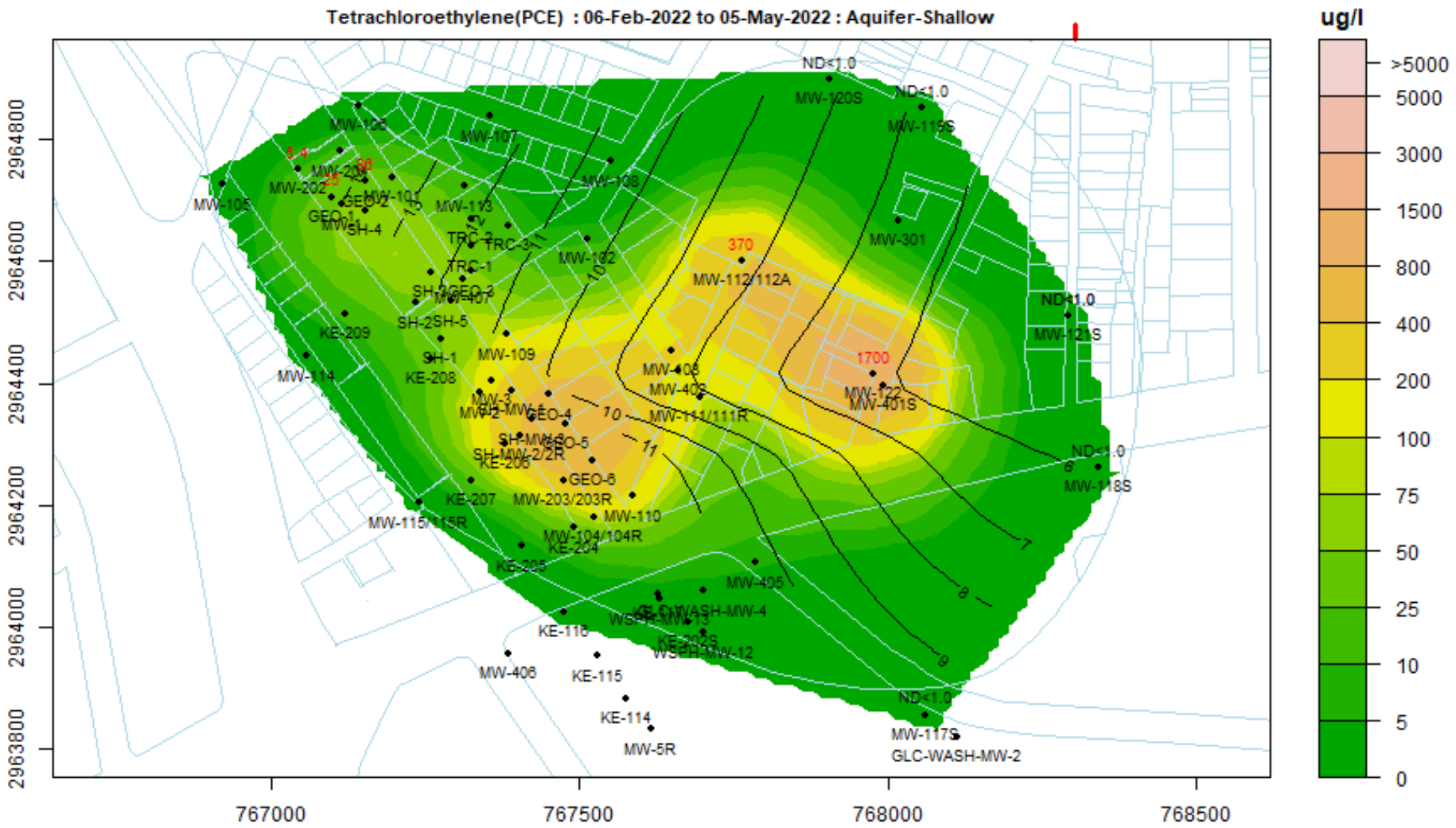
Tetrachloroethylene(PCE) : 06-Feb-2022 to 05-May-2022 : Aquifer-Shallow
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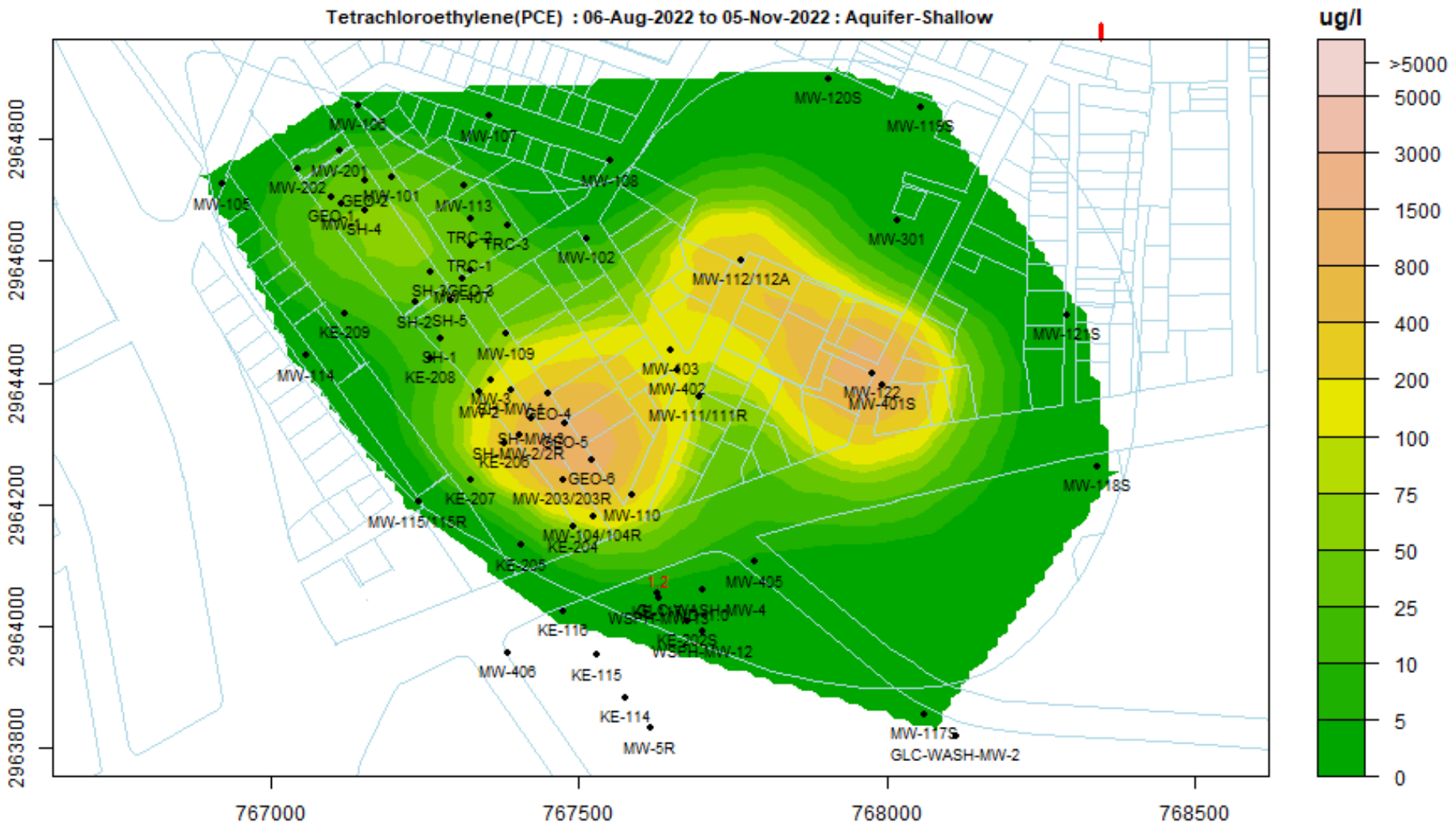
Tetrachloroethylene(PCE) : 06-Aug-2022 to 05-Nov-2022 : Aquifer-Shallow
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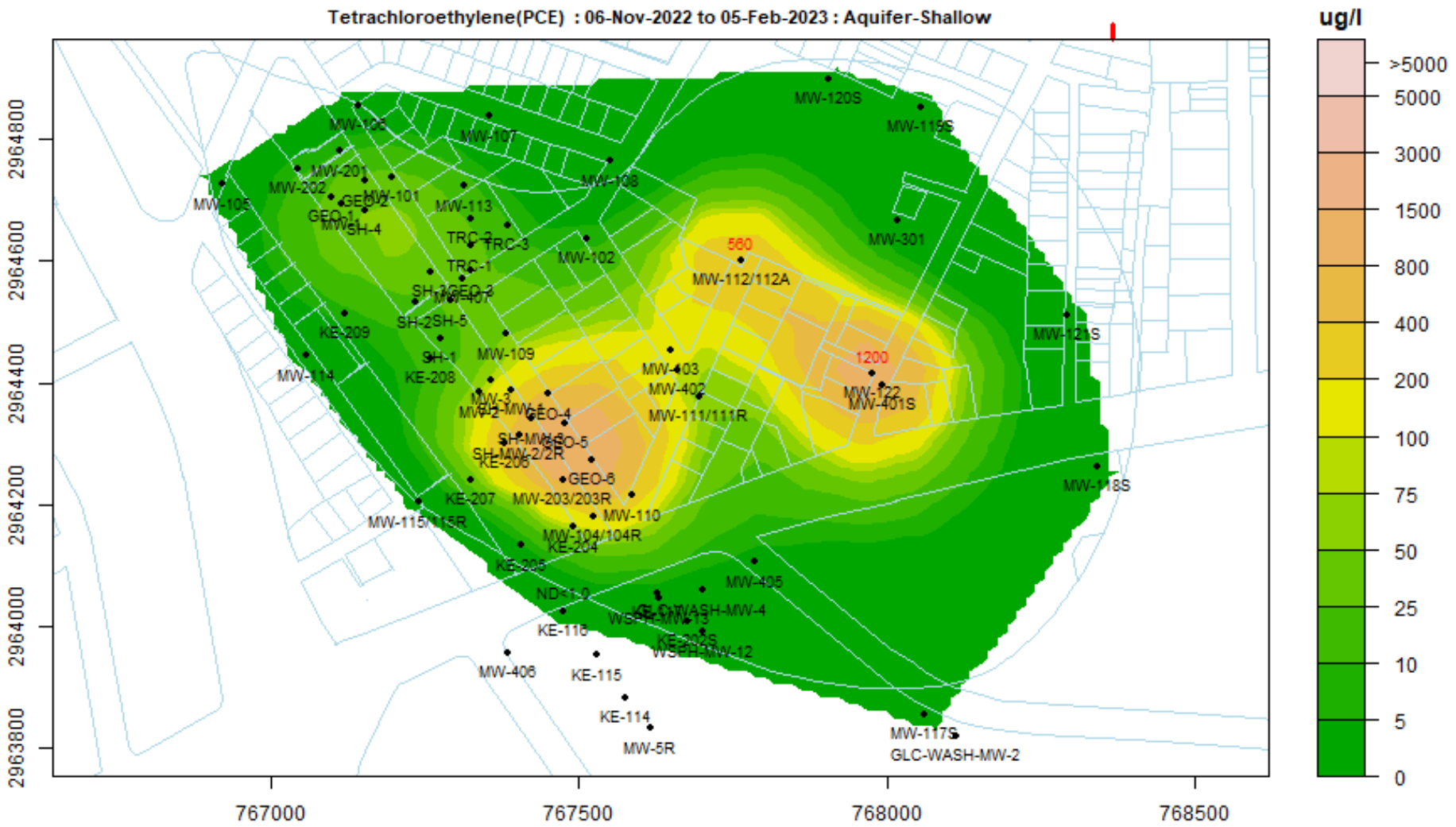
Tetrachloroethylene(PCE) : 06-Nov-2022 to 05-Feb-2023 : Aquifer-Shallow
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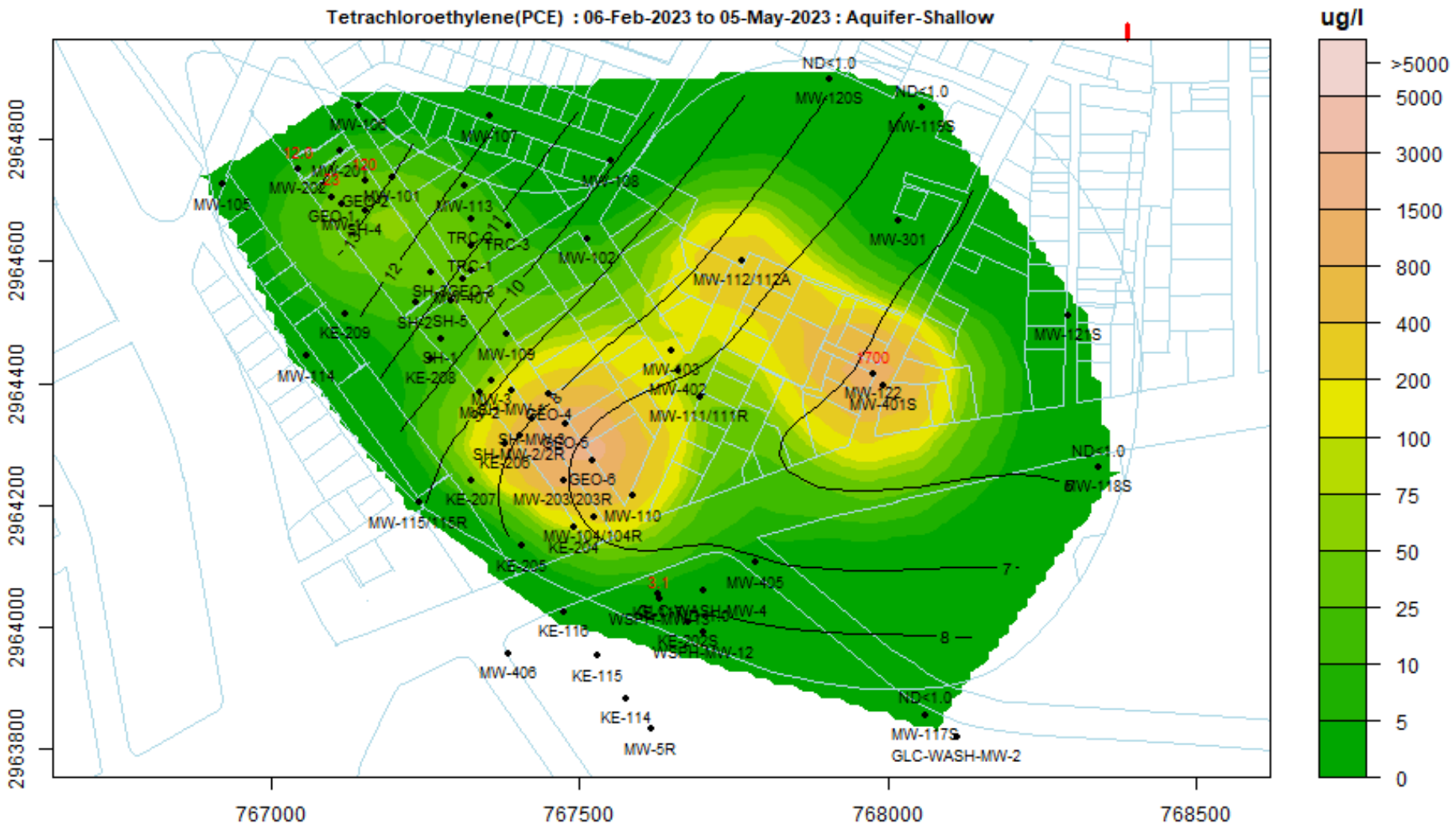
Tetrachloroethylene(PCE) : 06-Feb-2023 to 05-May-2023 : Aquifer-Shallow
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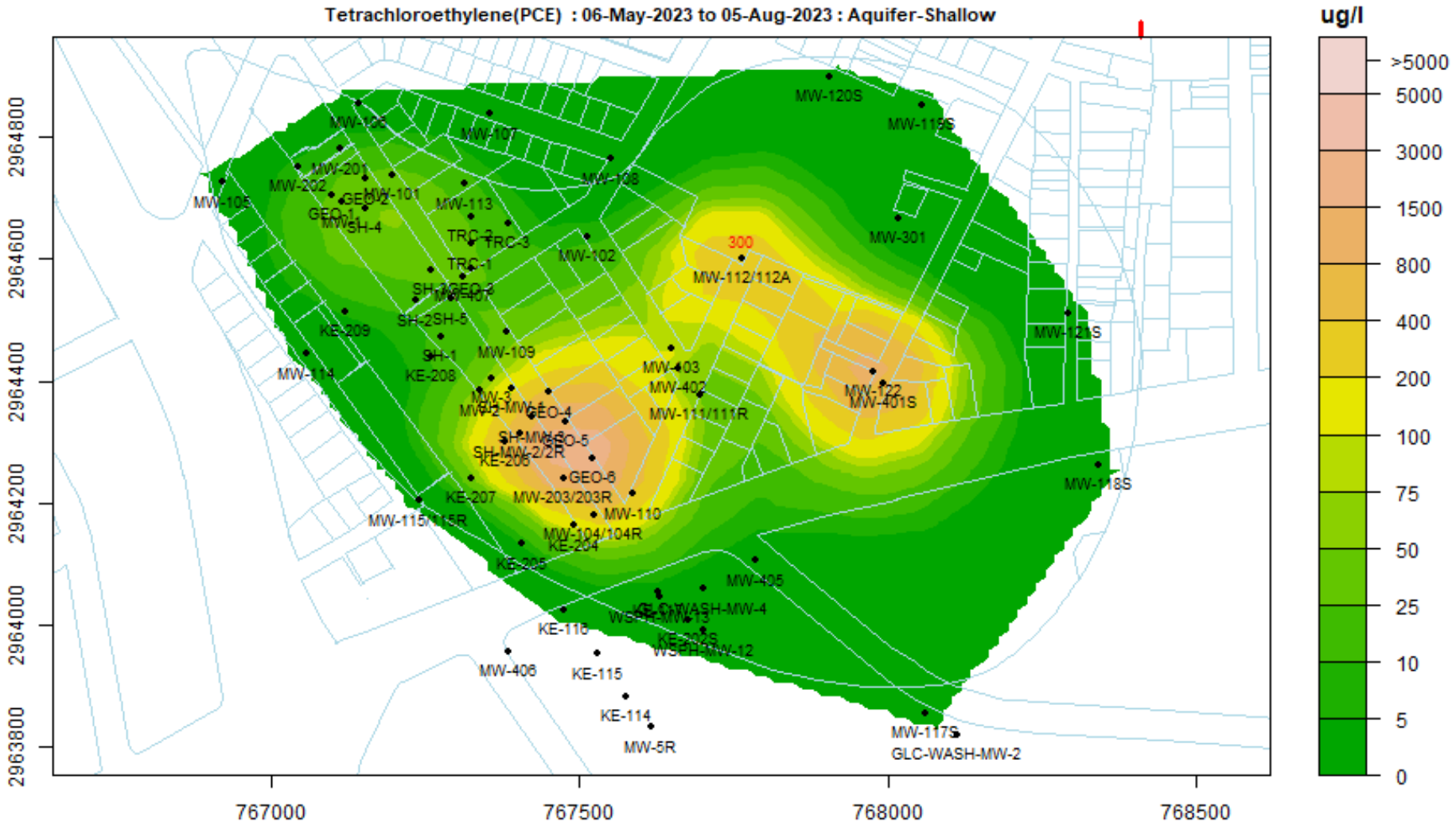
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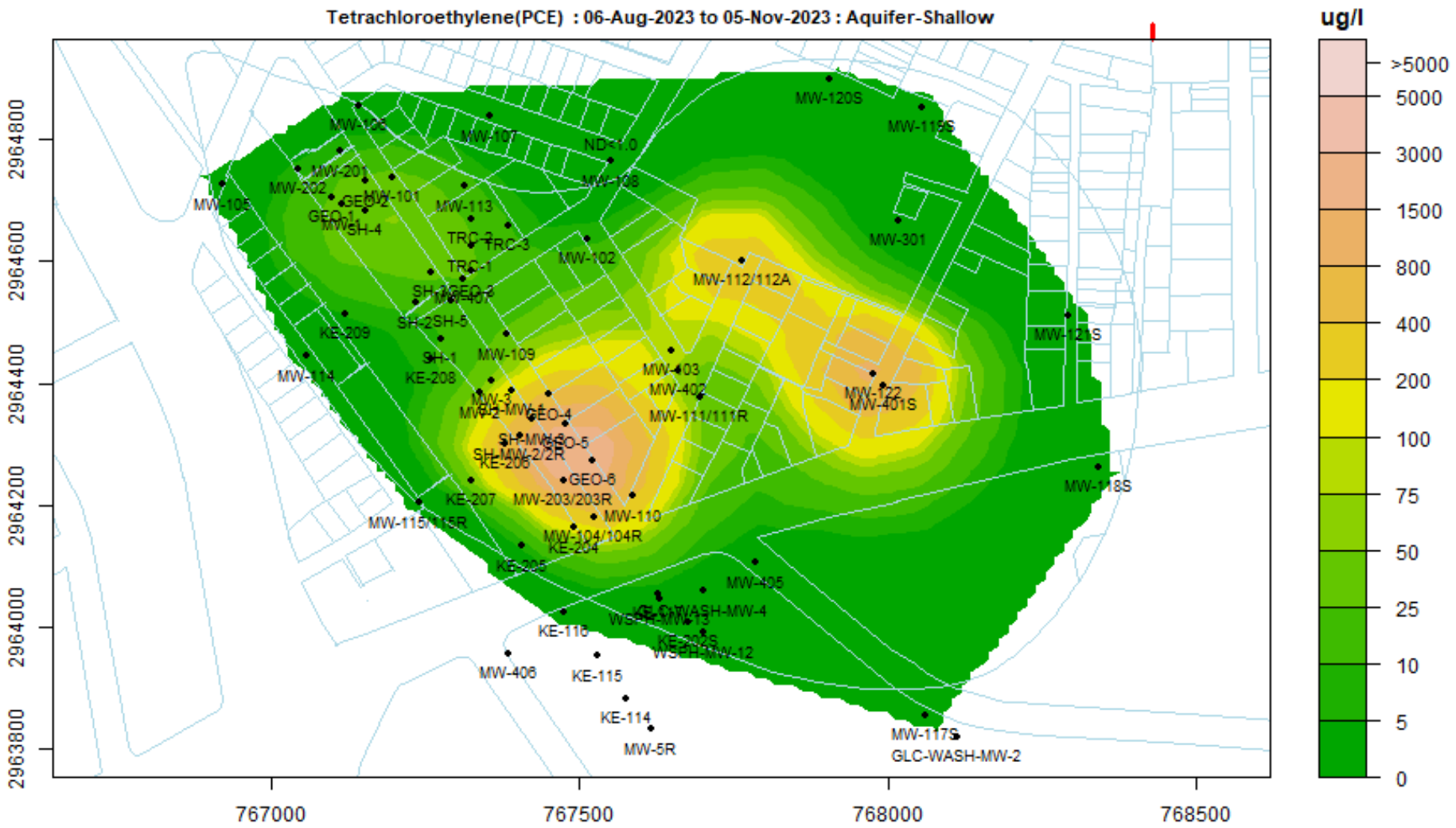
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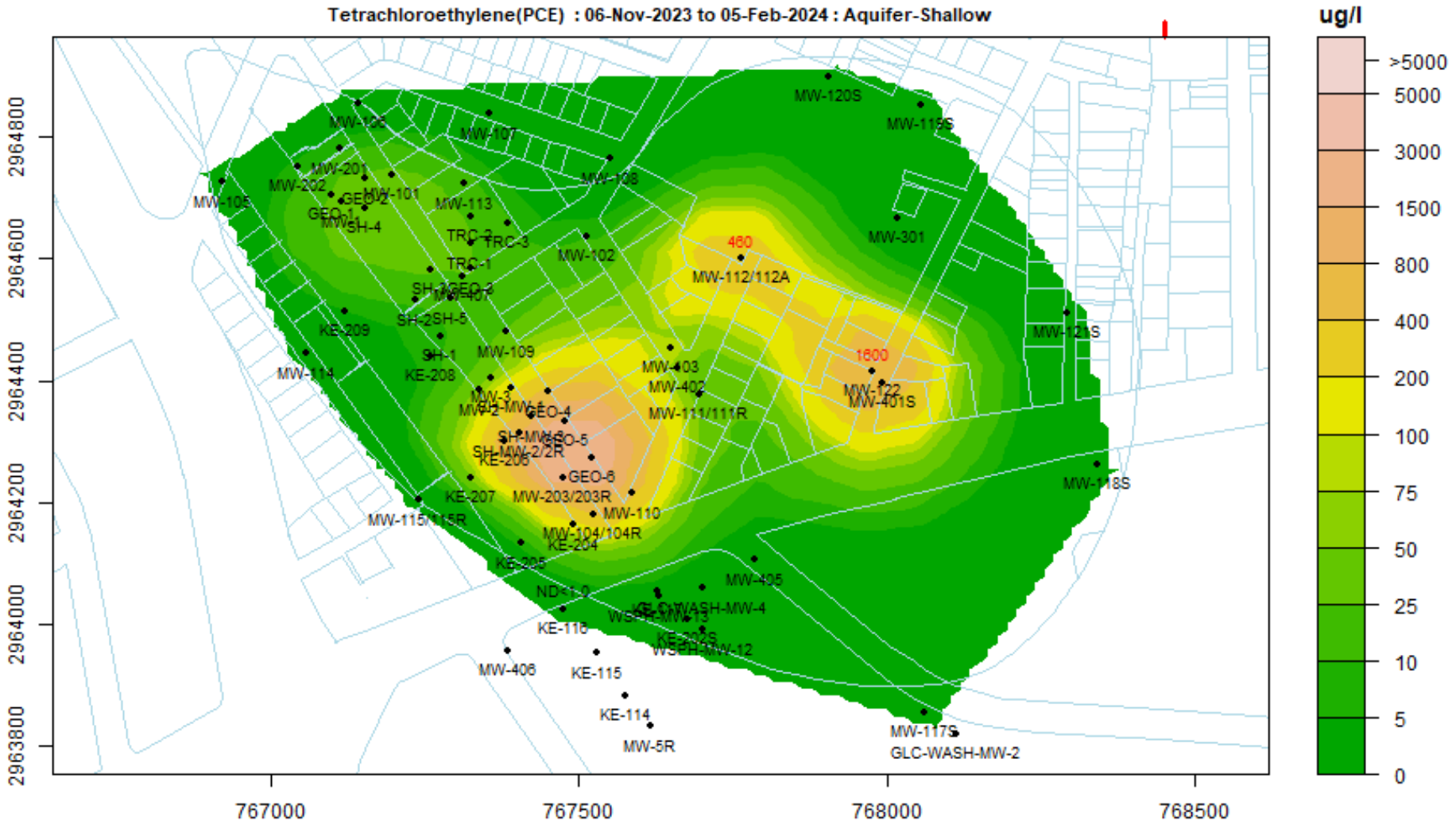
Tetrachloroethylene(PCE) : 06-Nov-2023 to 05-Feb-2024 : Aquifer-Shallow
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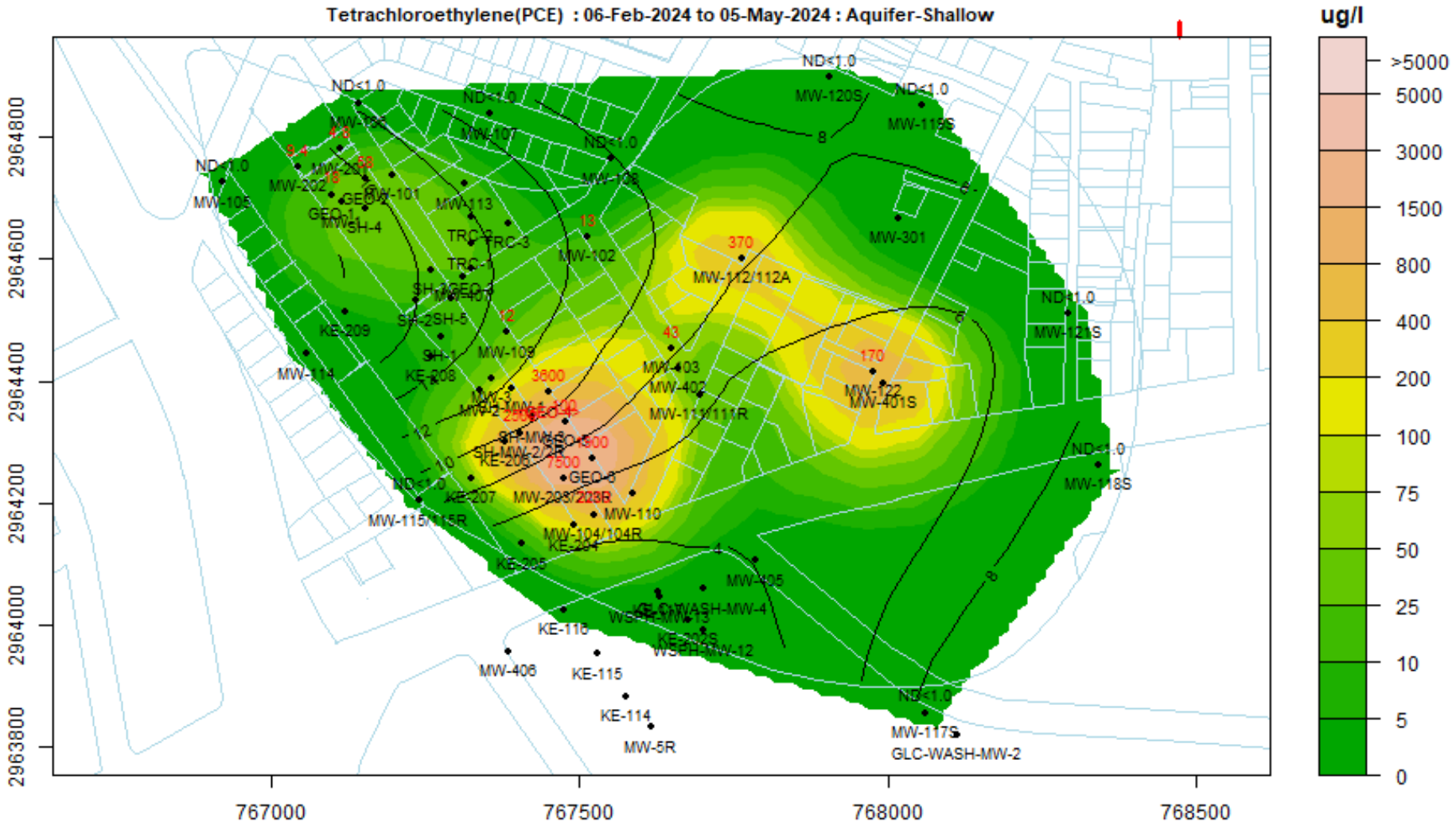
Tetrachloroethylene(PCE) : 06-Feb-2024 to 05-May-2024 : Aquifer-Shallow
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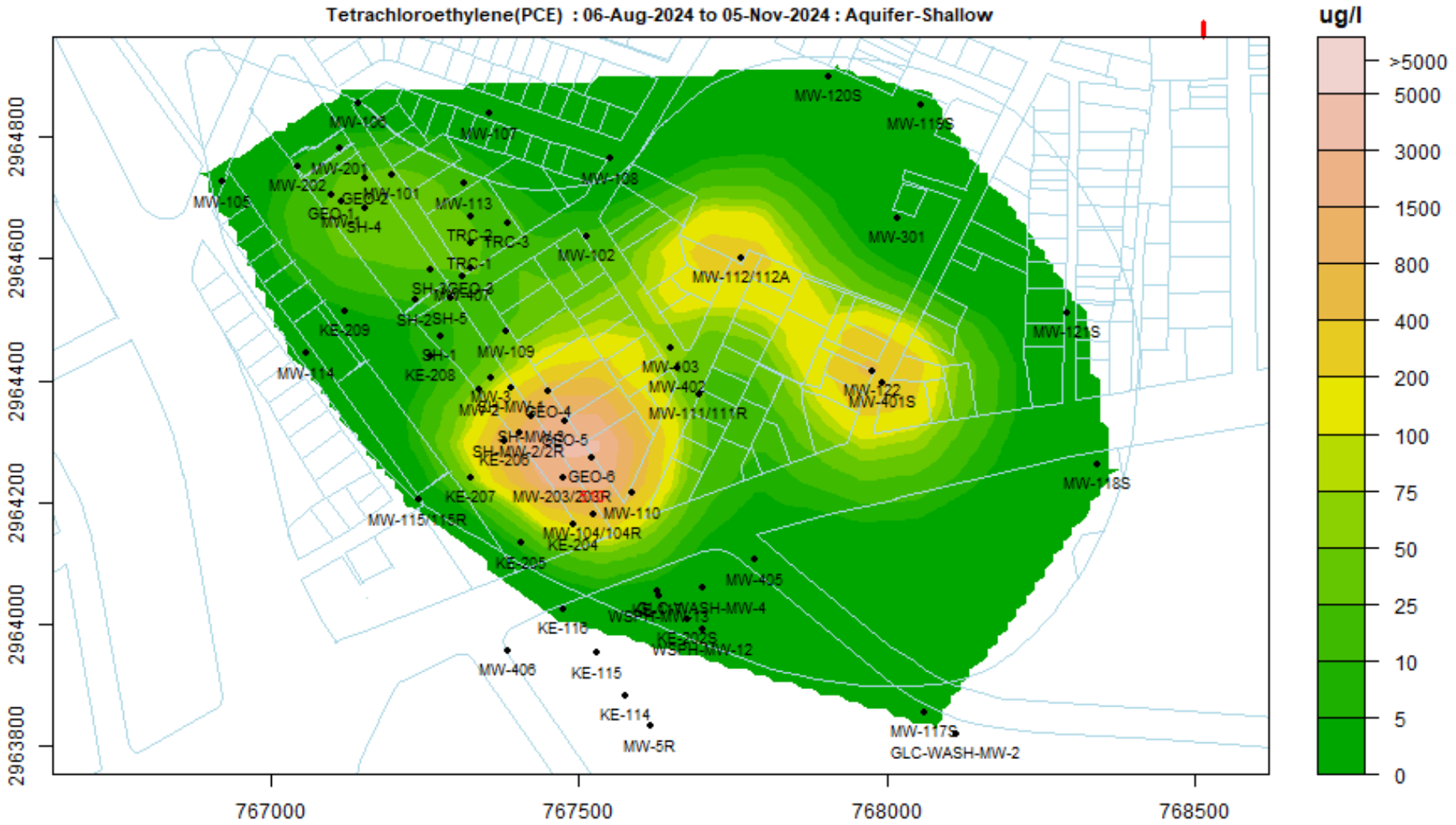
Tetrachloroethylene(PCE) : 06-Aug-2024 to 05-Nov-2024 : Aquifer-Shallow
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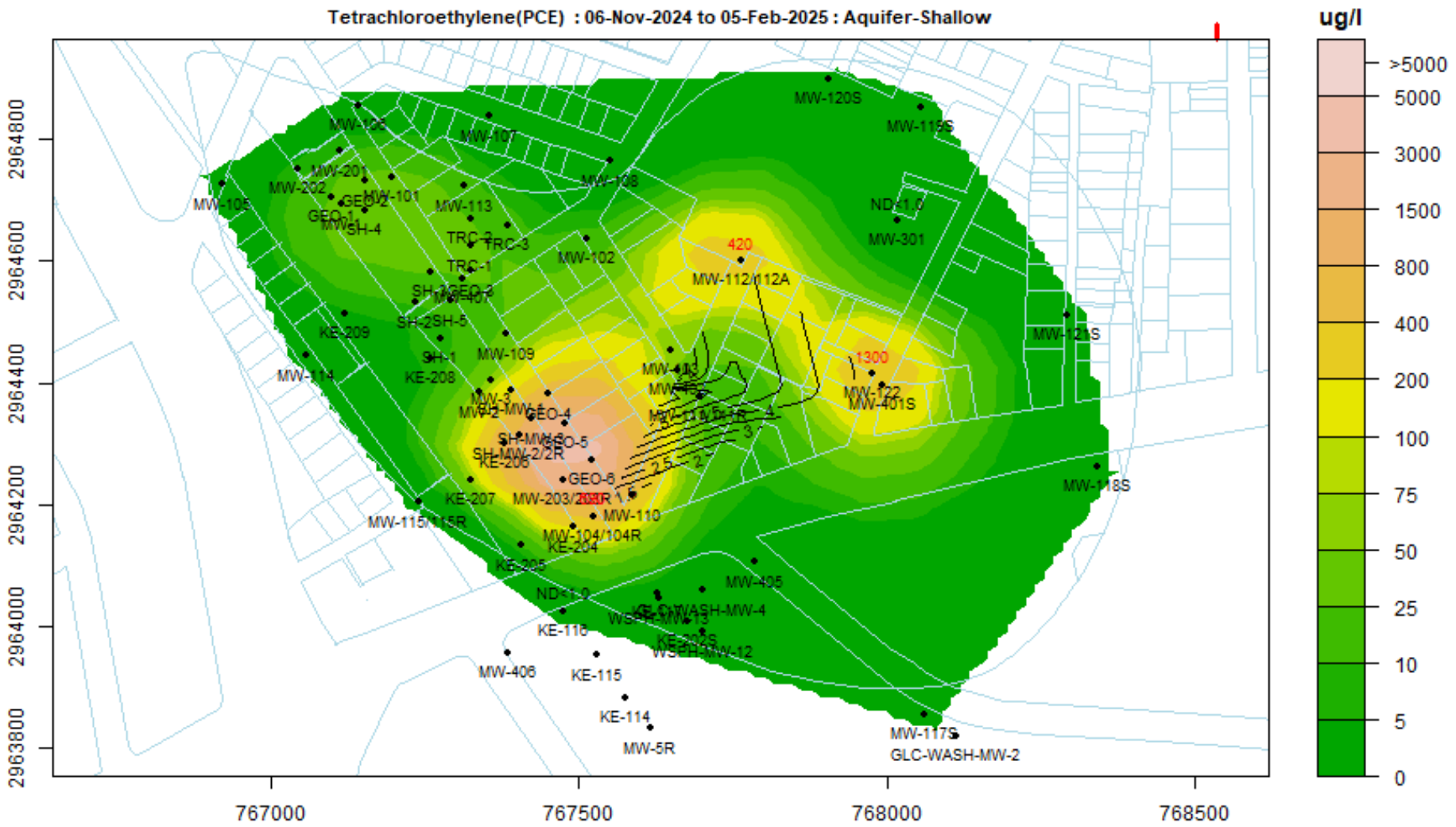
Tetrachloroethylene(PCE) : 06-Nov-2024 to 05-Feb-2025 : Aquifer-Shallow
ug/l
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2964400
2964200
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2963800
767000
767500
768000
768500
MW-120S
MW-119S
MW-107
MW-108
MW-201
MW-202
MW-101
MW-105
GEO-2
GEO-1
MW-113
SH-4
TRC-2
TRC-3
TRC-1
MW-102
420
MW-112/112A
ND<1.0
MW-301
MW-121S
SH-1GEO-3
SH-2SH-5
KE-209
SH-1
MW-109
KE-208
MW-114
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MW-122
MW-401S
GEO-4
GEO-5
KE-206
GEO-6
MW-118S
KE-207
MW-203/203R
MW-110
MW-115/115R
MW-104/104R
KE-204
KE-205
MW-405
ND<1.0
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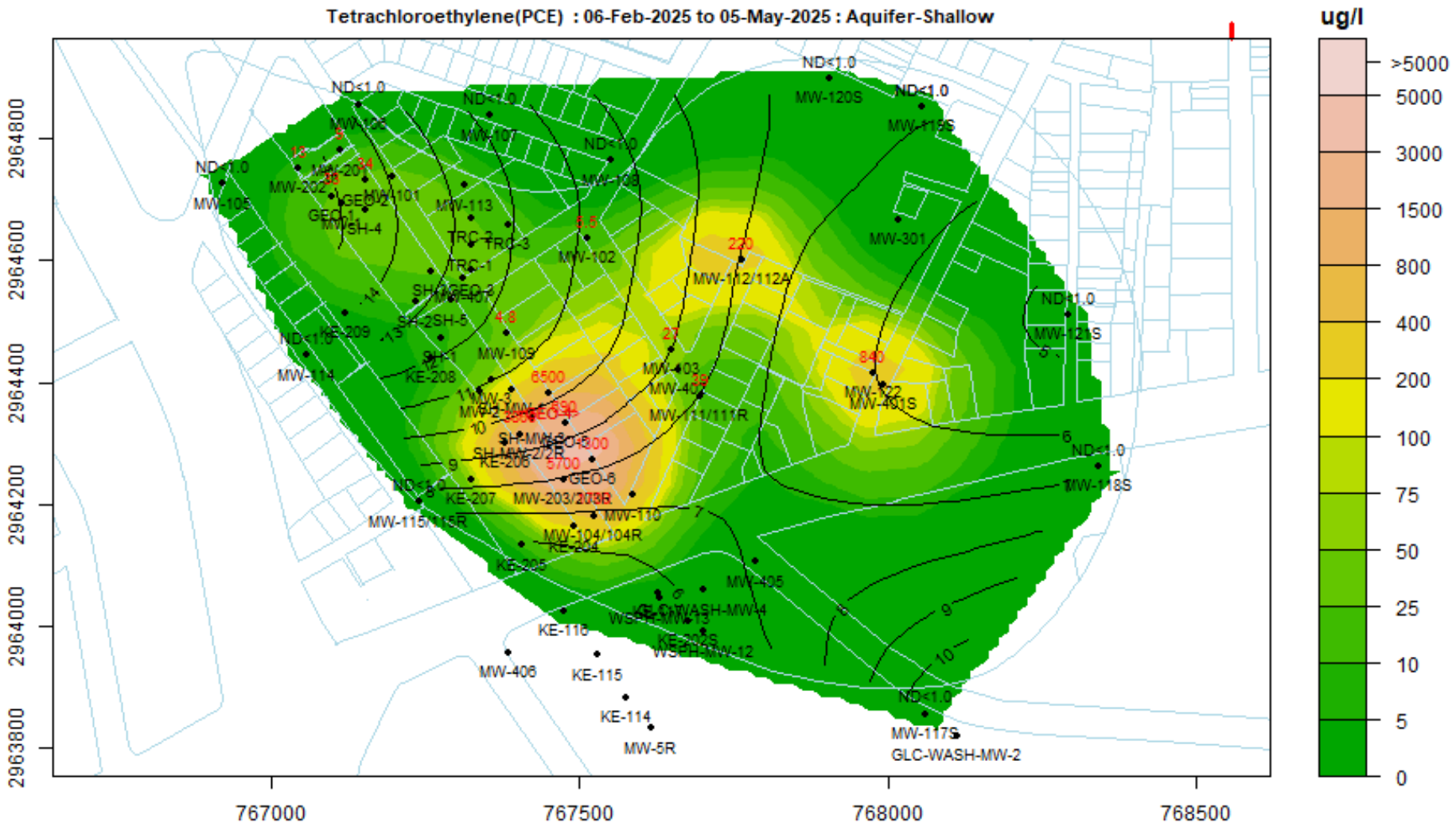
GLC-WASH-MW-2


Tetrachloroethylene(PCE) : 06-Feb-2025 to 05-May-2025 : Aquifer-Shallow
ug/l
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2963800
767000
767500
768000
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MW-119S
MW-301
MW-121S
MW-122
MW-401S
MW-118S
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GLC-WASH-MW-2
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MW-111/111R
MW-403
MW-402
MW-110
MW-104/104R
MW-102
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MW-106
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MW-101
MW-113
GEO-1
SH-4
TRC-2
TRC-3
TRC-1
SH-GEO-2
SH-2SH-5
KE-209
SH-1
KE-208
MW-114
MW-3
SH-MW-6
SH-MW-2/2R
KE-206
KE-207
MW-115/115R
GEO-6
MW-203/203R
KE-204
KE-205
MW-405
KE-CHWASH-MW-4
KE-116
KE-117S
WSH-MW-12
MW-406
KE-115
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MW-5R
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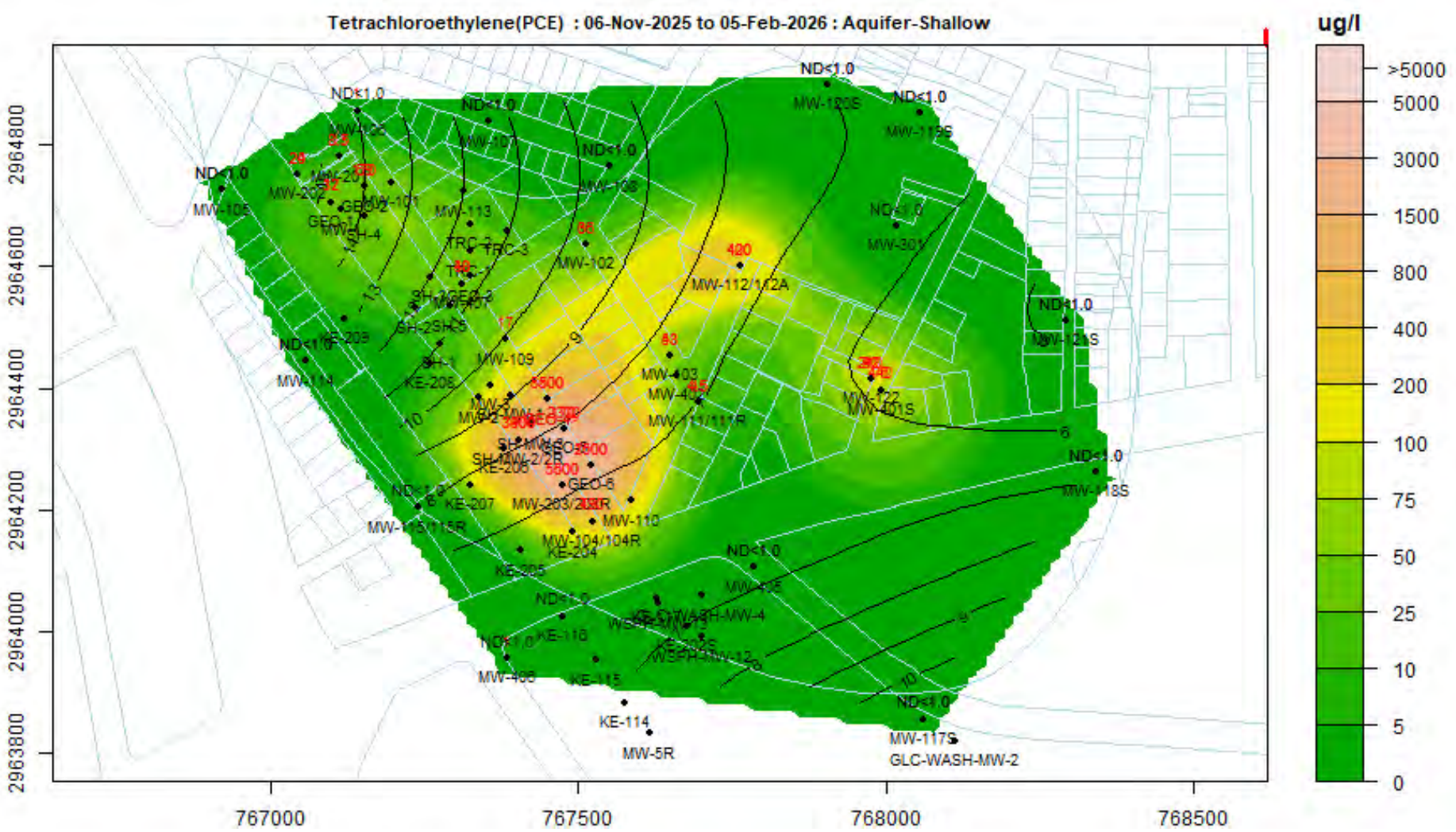
Tetrachloroethylene(PCE) : 06-Nov-2025 to 05-Feb-2026 : Aquifer-Shallow
ug/l
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GEO-2
GEO-3
GEO-4
GEO-5
GEO-6
TRC-1
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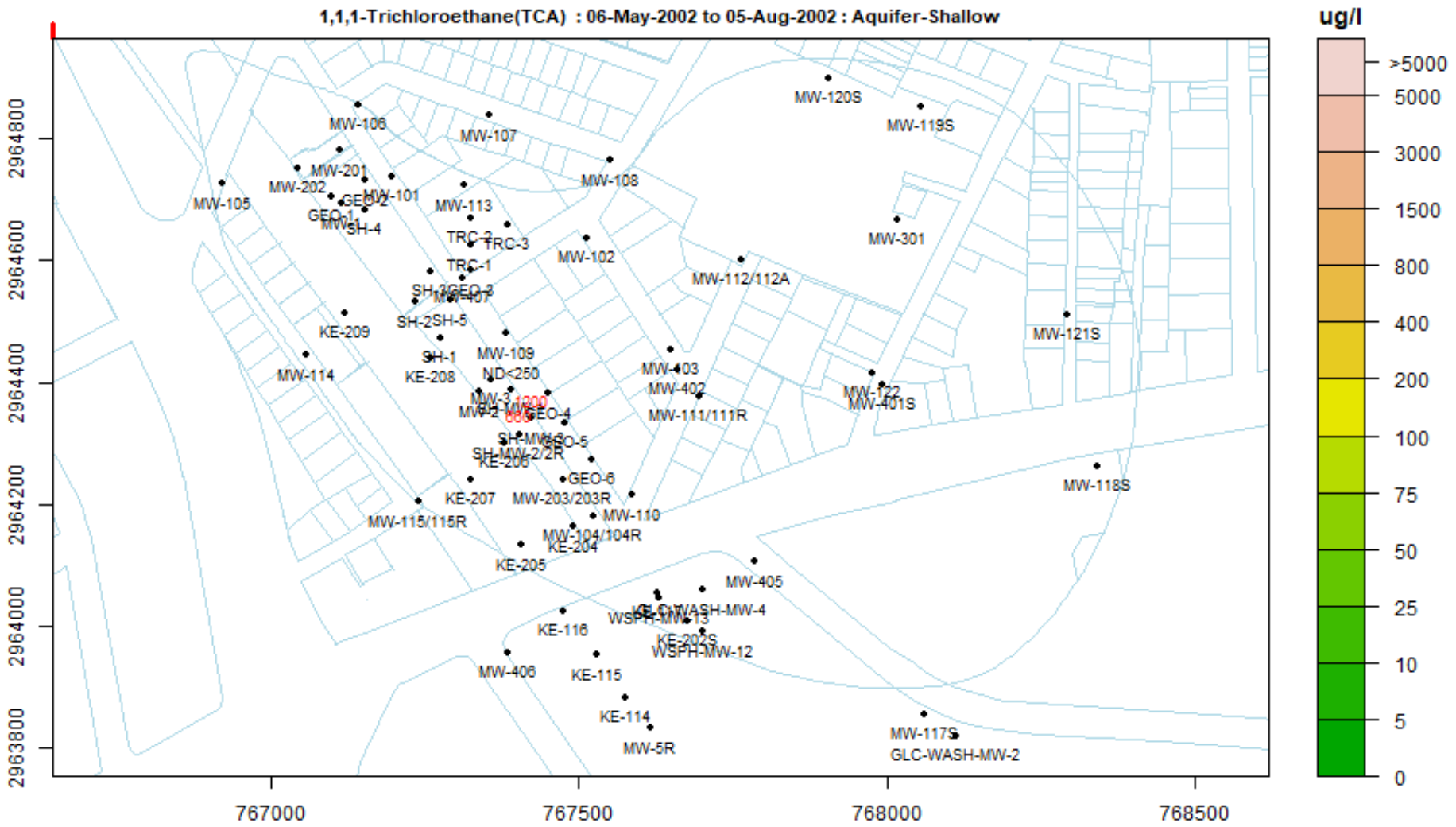
1,1,1-Trichloroethane(TCA) : 06-May-2002 to 05-Aug-2002 : Aquifer-Shallow
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GEO-1
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GEO-3
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KE-208
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GEO-5
SH-MW-2/2R
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GEO-6
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MW-115/115R
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KE-204
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MW-405
GLC-WASH-MW-4
WSPH-MW-13
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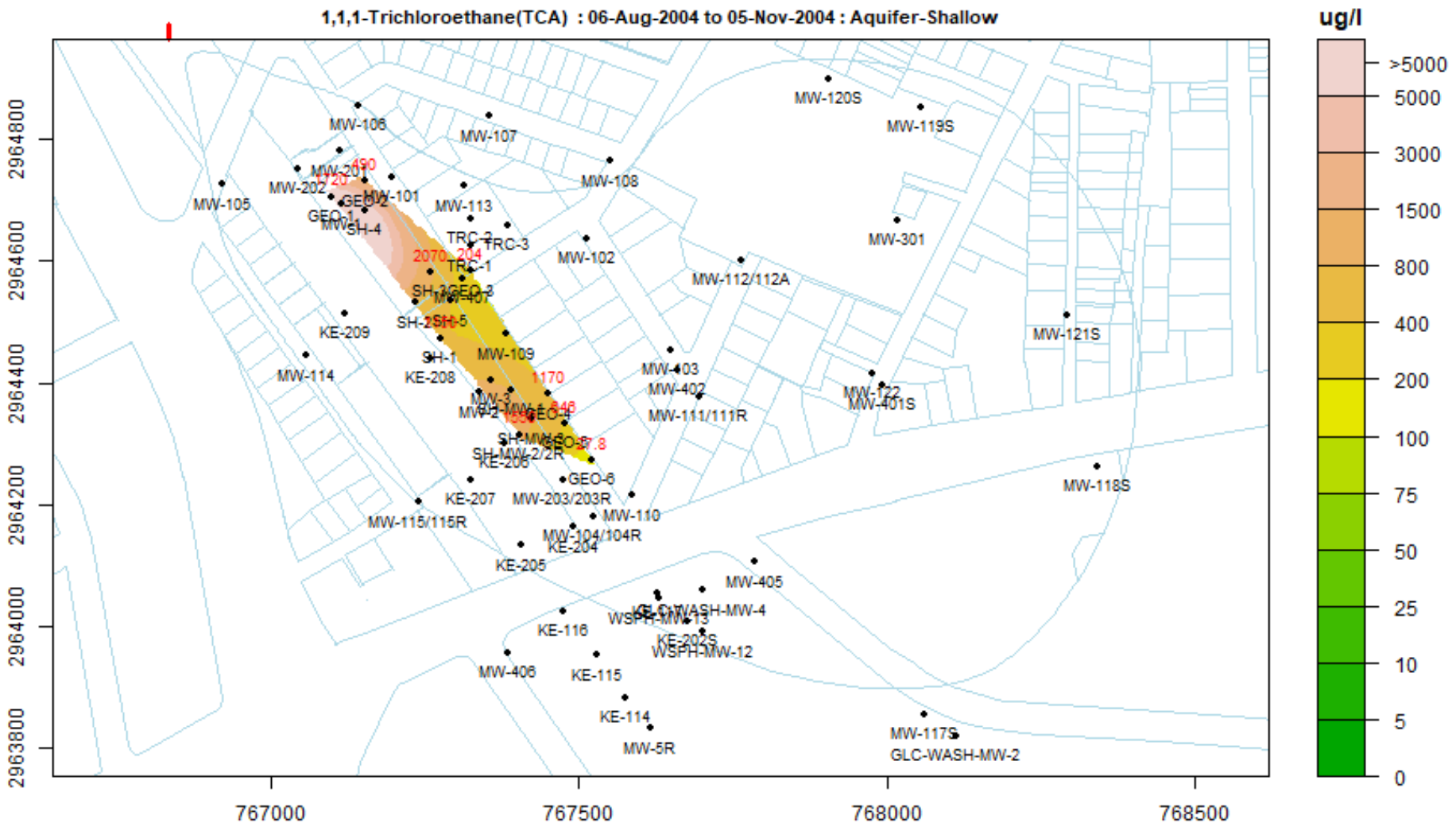
KE-202S
WSPH-MW-12
MW-406
KE-115
KE-114
MW-5R
MW-117S
GLC-WASH-MW-2


1,1,1-Trichloroethane(TCA) : 06-Aug-2004 to 05-Nov-2004 : Aquifer-Shallow
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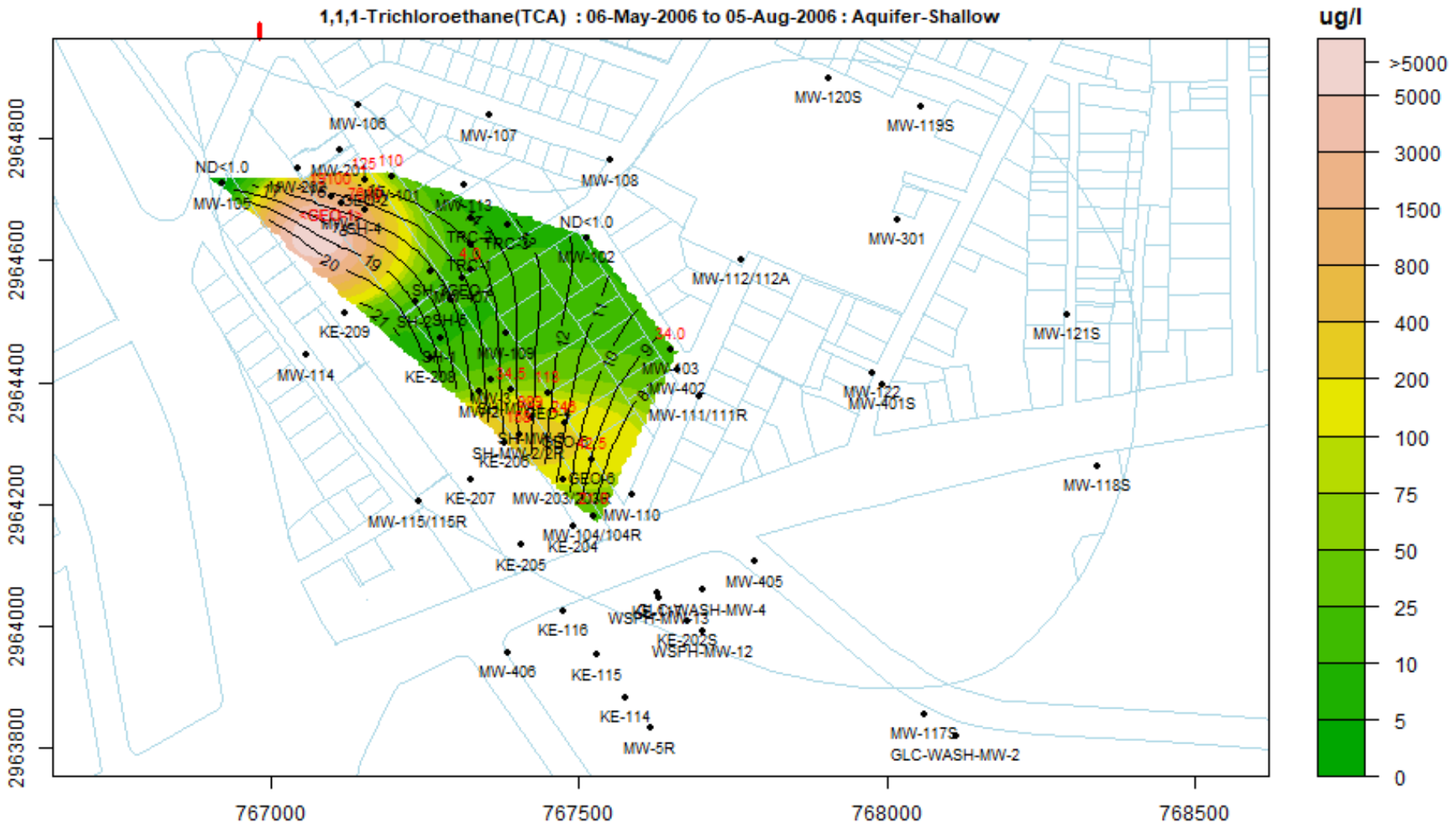
1,1,1-Trichloroethane(TCA) : 06-May-2006 to 05-Aug-2006 : Aquifer-Shallow
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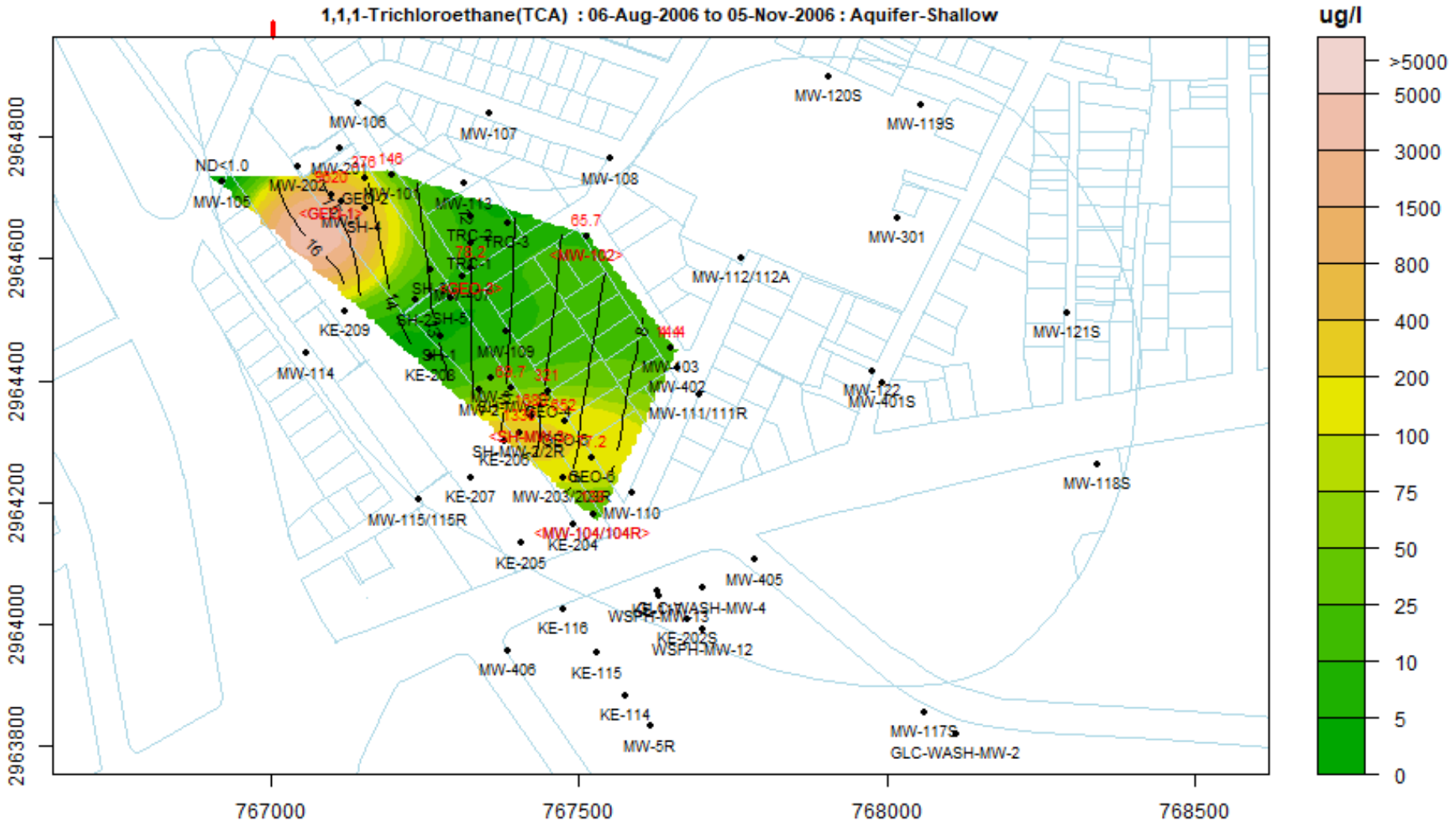
1,1,1-Trichloroethane(TCA) : 06-Aug-2006 to 05-Nov-2006 : Aquifer-Shallow
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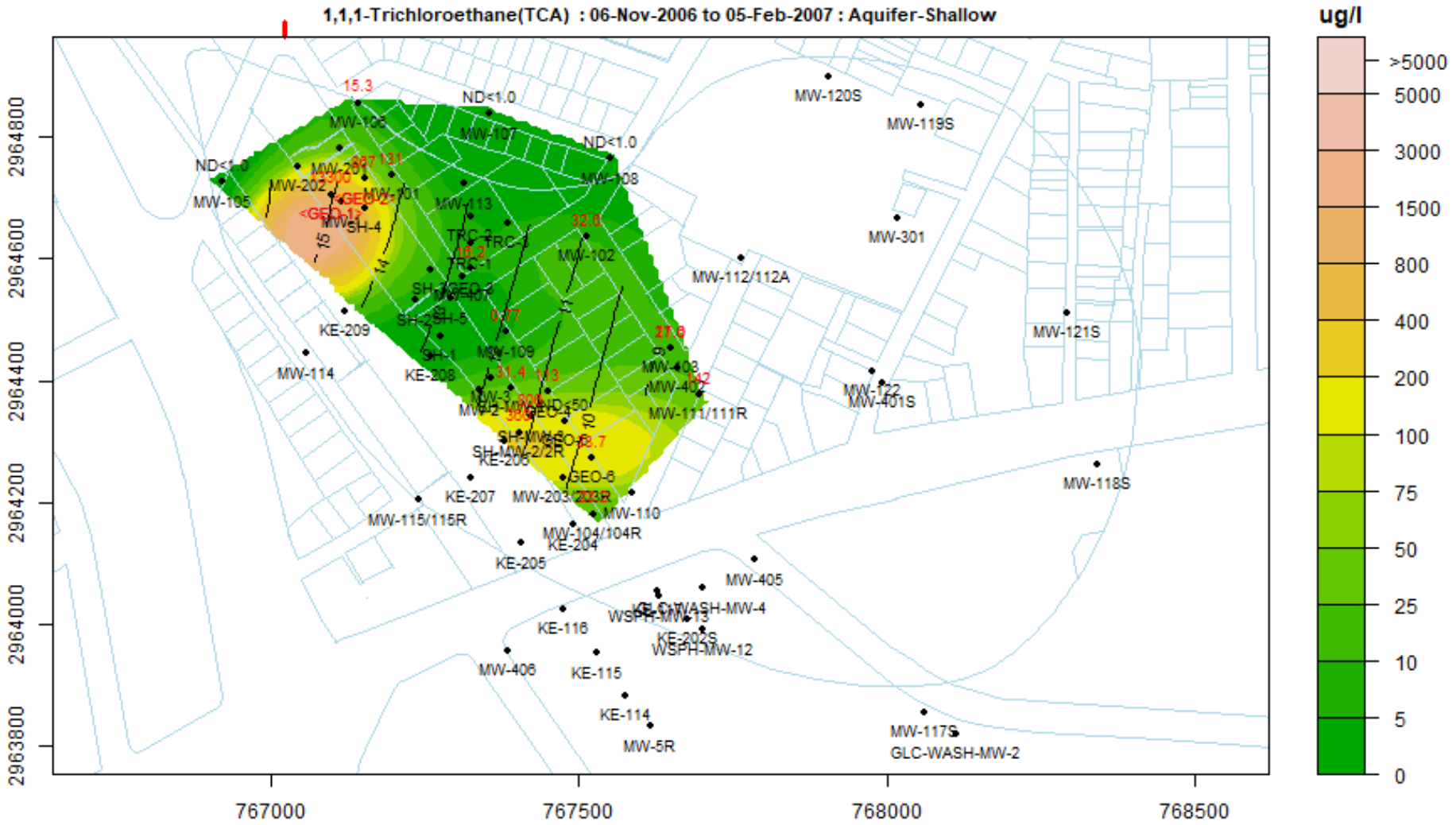
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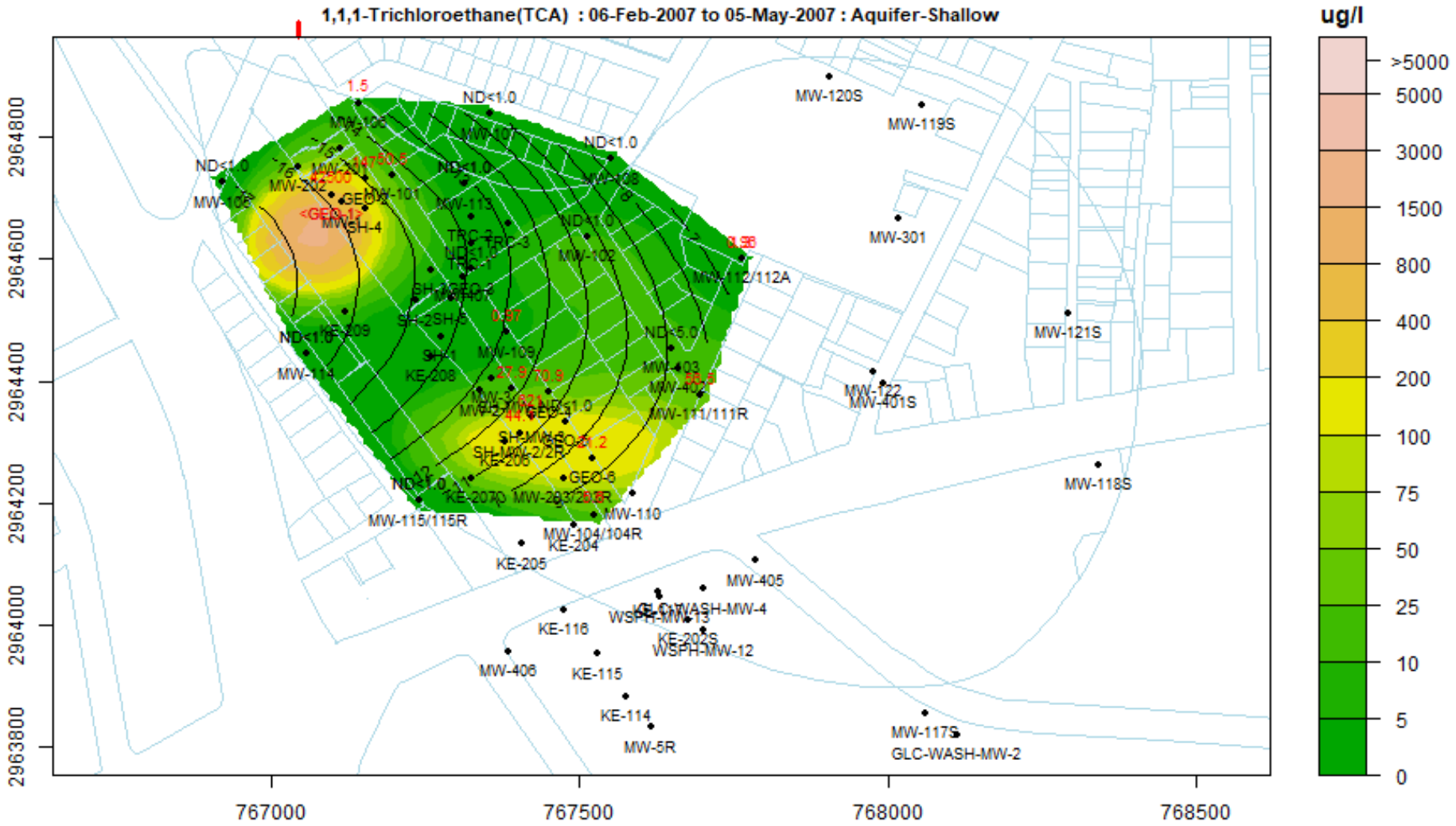
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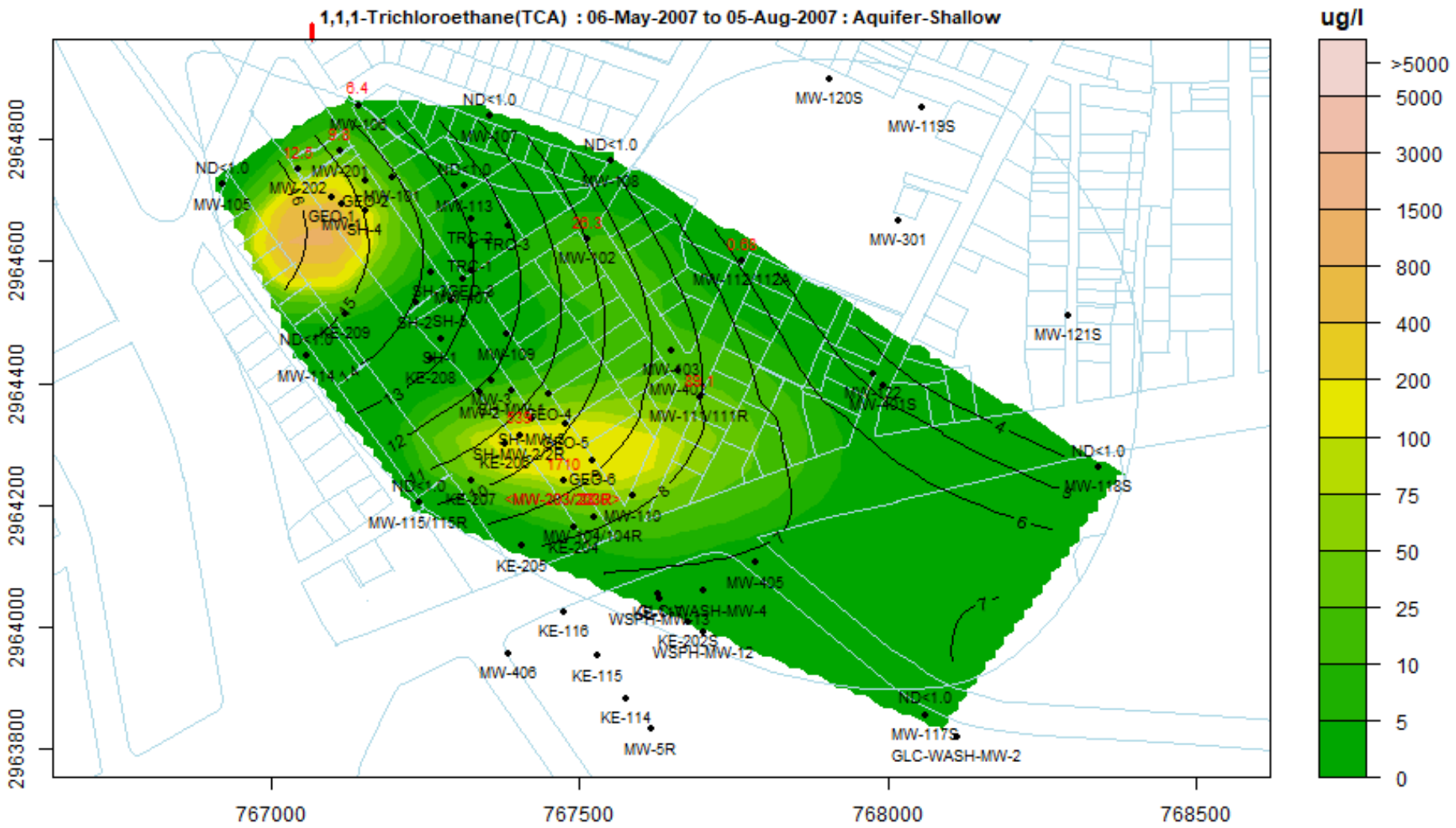
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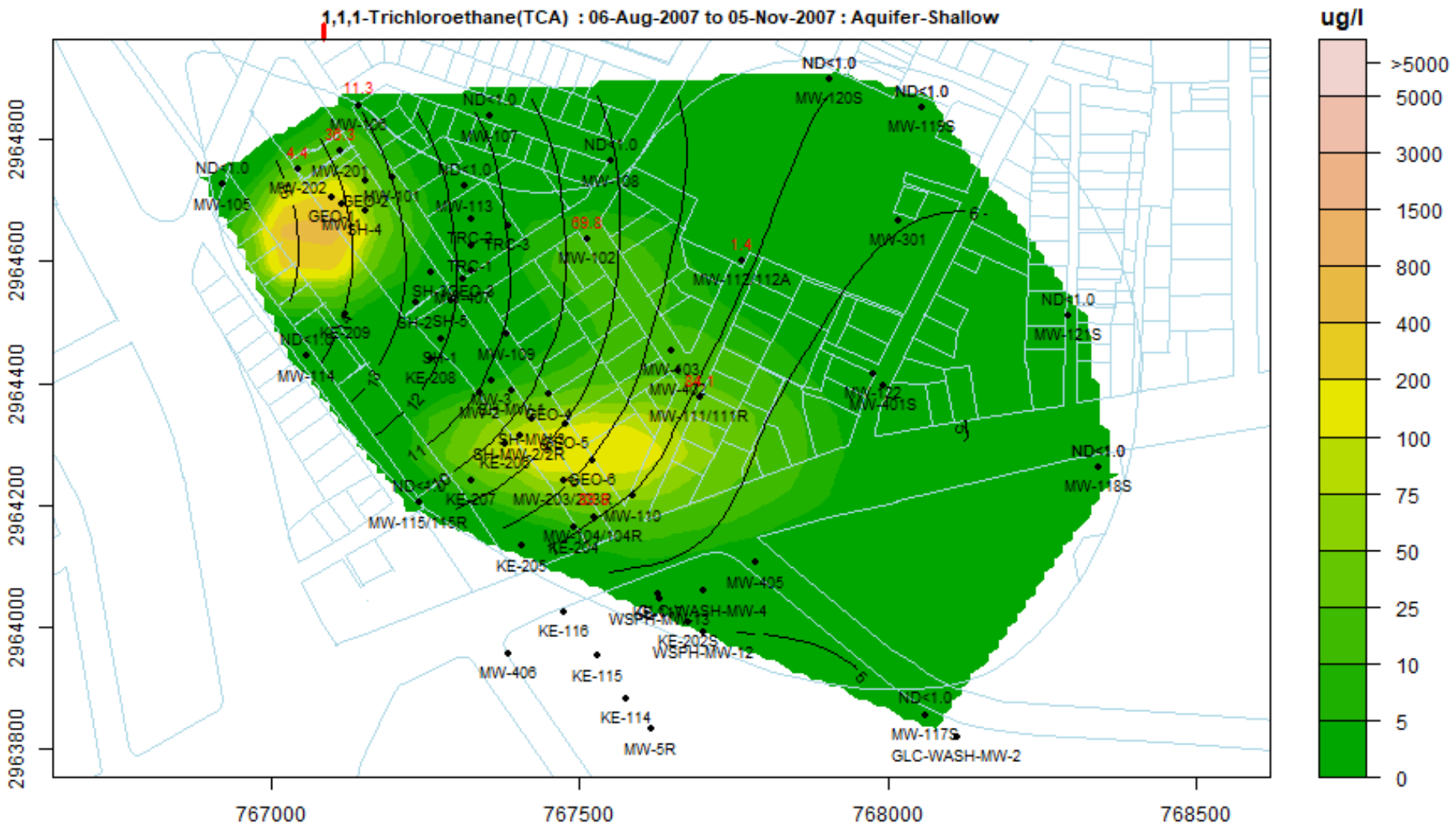
1,1,1-Trichloroethane(TCA) : 06-Aug-2007 to 05-Nov-2007 : Aquifer-Shallow
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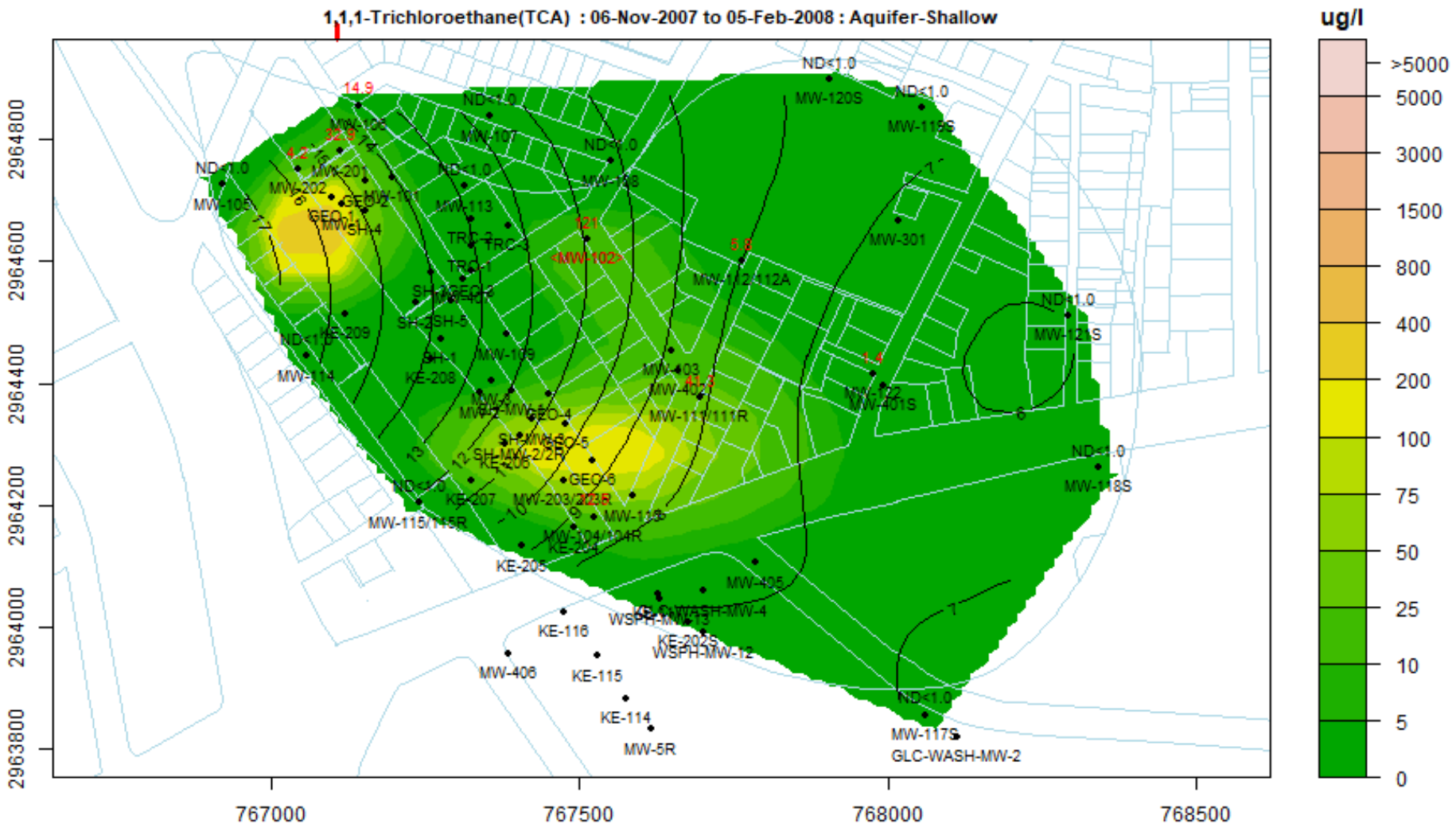
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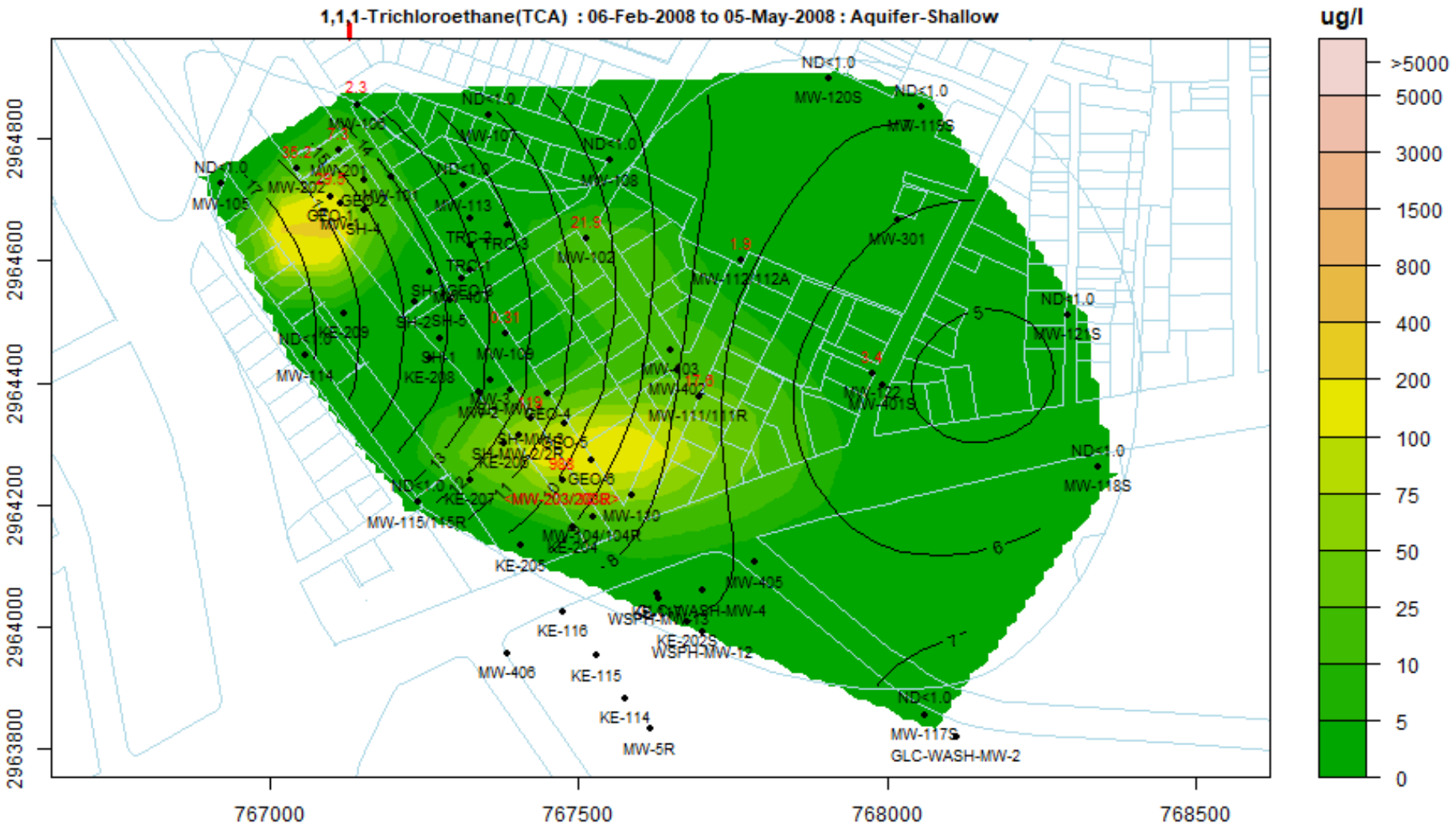
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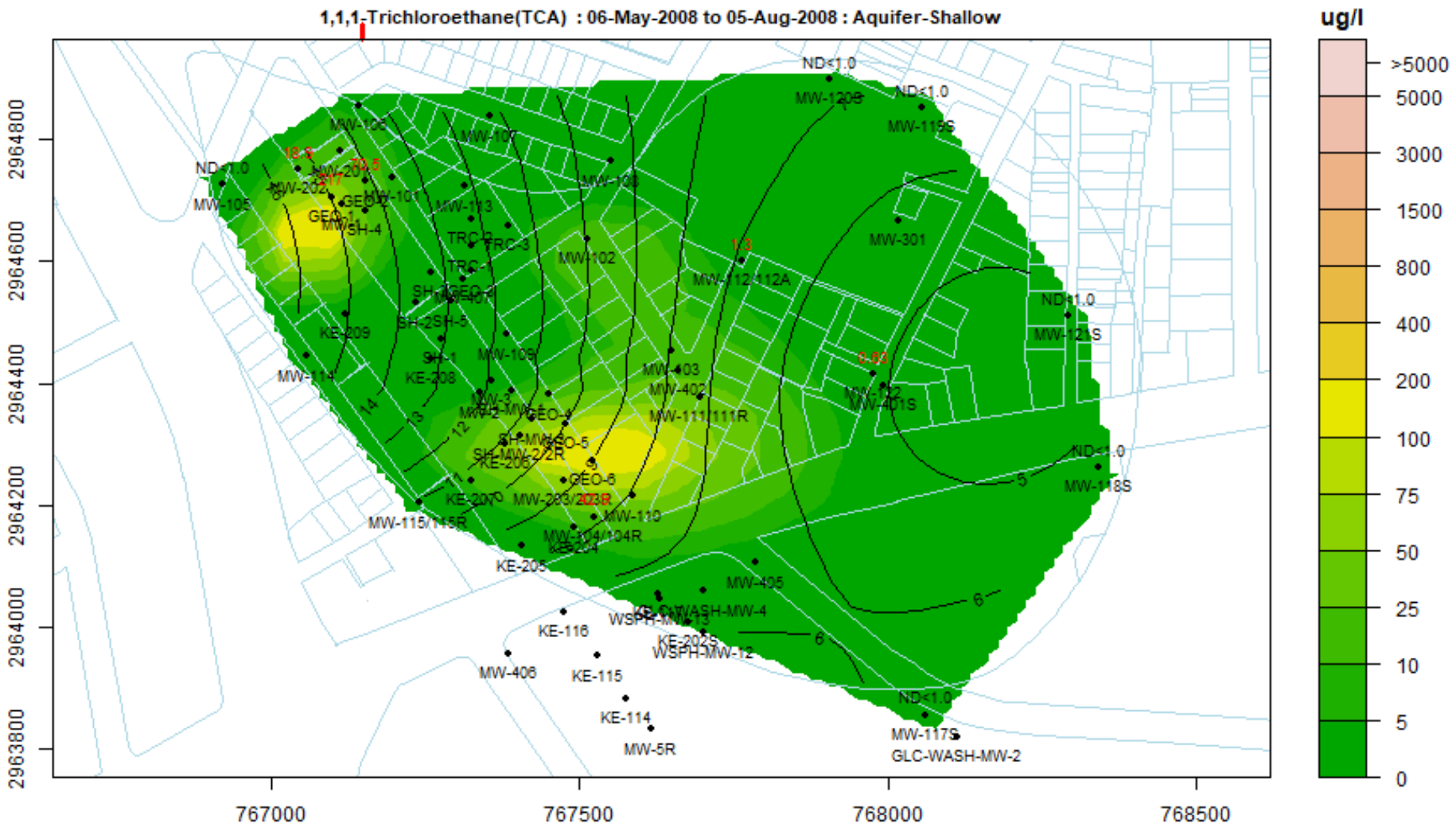
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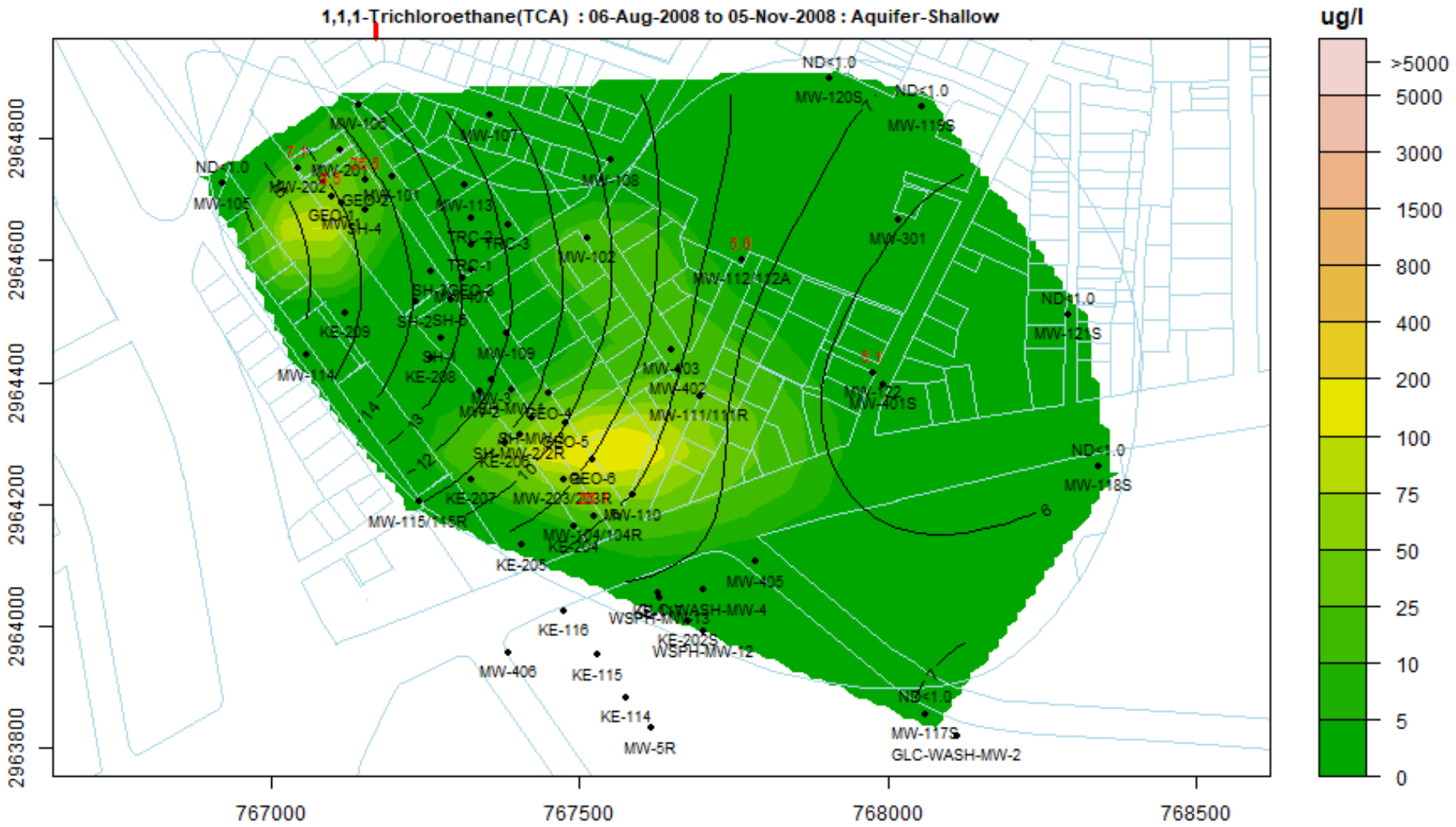
1,1,1-Trichloroethane(TCA) : 06-Aug-2008 to 05-Nov-2008 : Aquifer-Shallow
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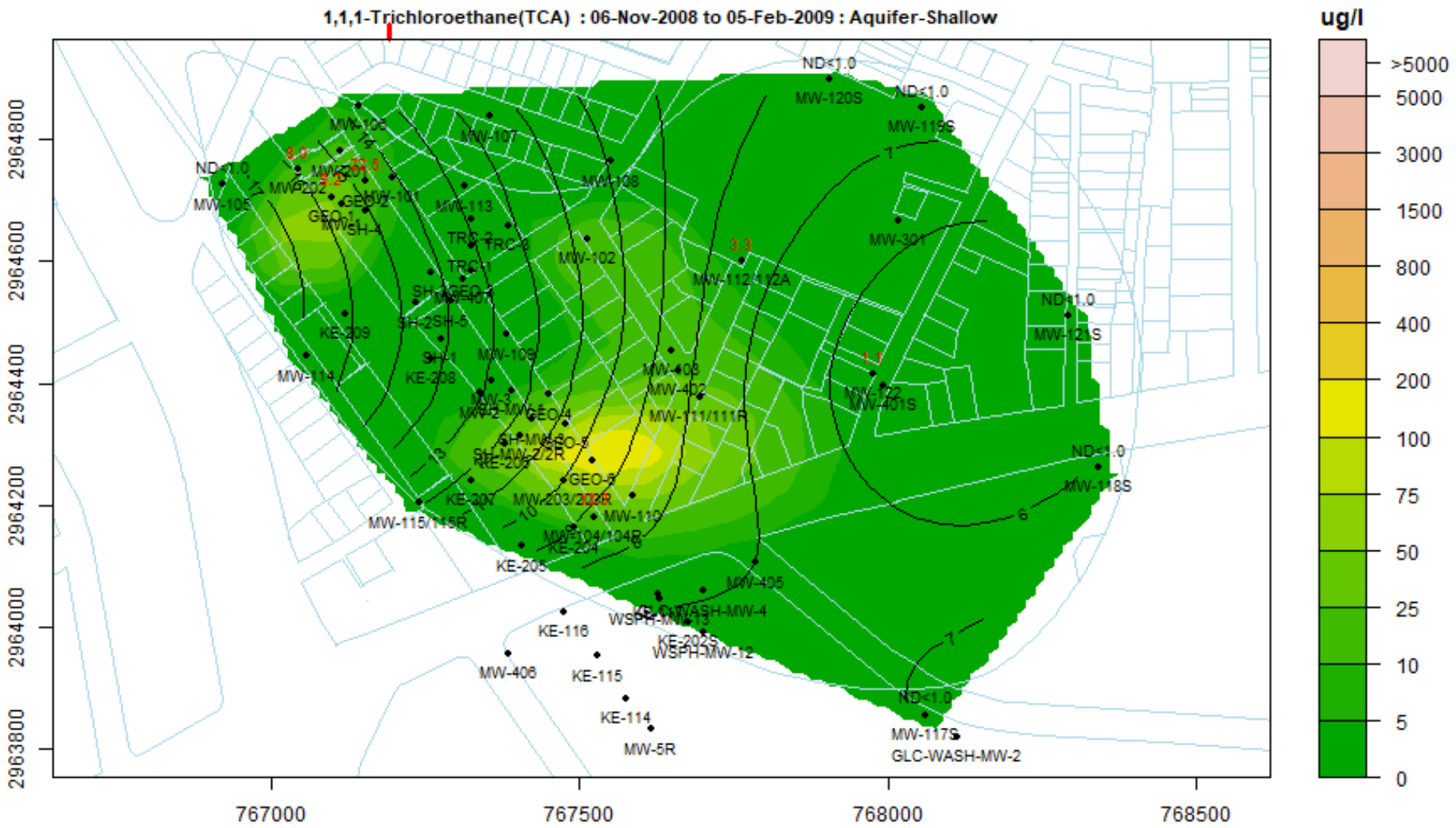
1,1,1-Trichloroethane(TCA) : 06-Nov-2008 to 05-Feb-2009 : Aquifer-Shallow
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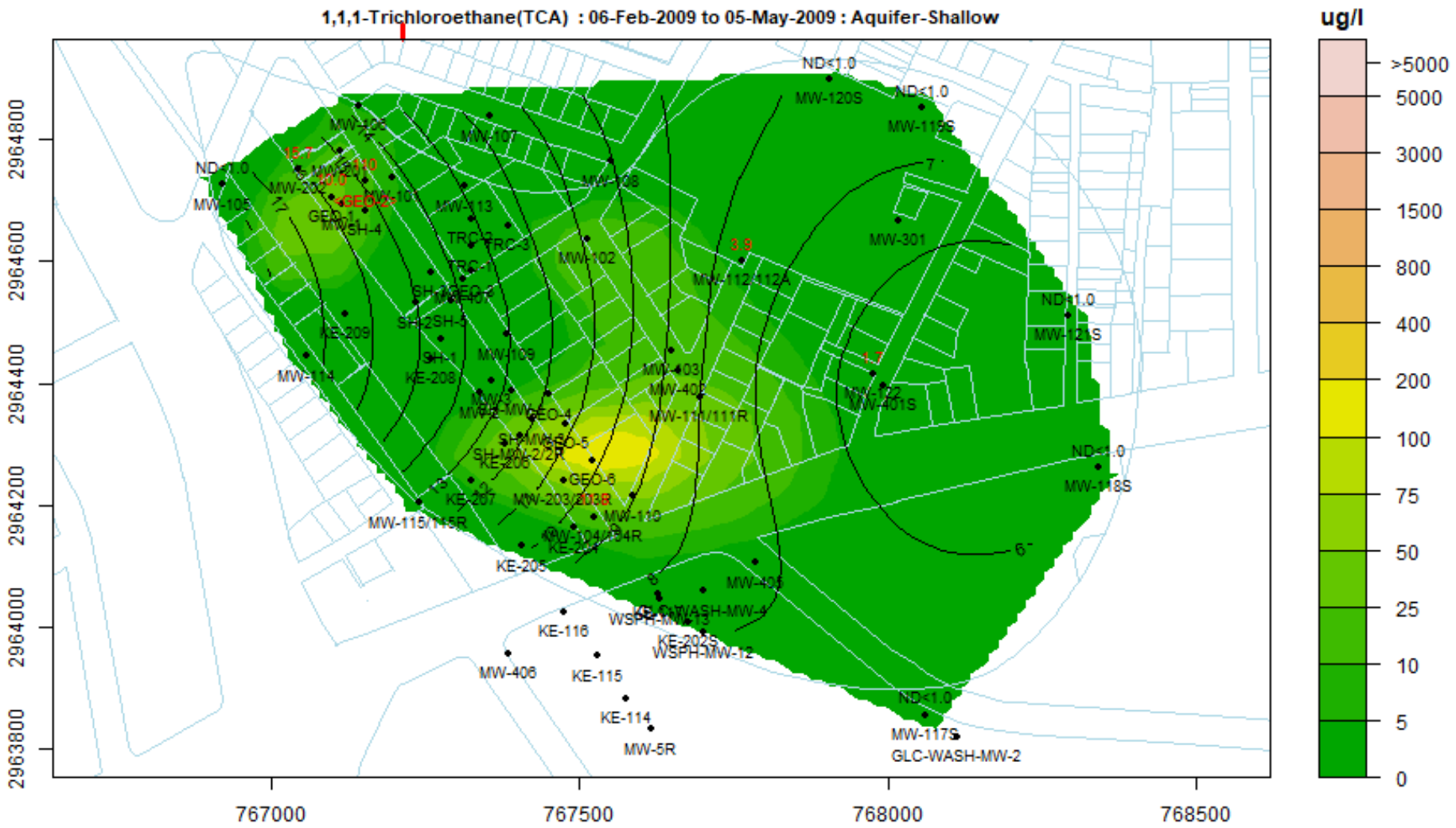
1,1,1-Trichloroethane(TCA) : 06-Feb-2009 to 05-May-2009 : Aquifer-Shallow
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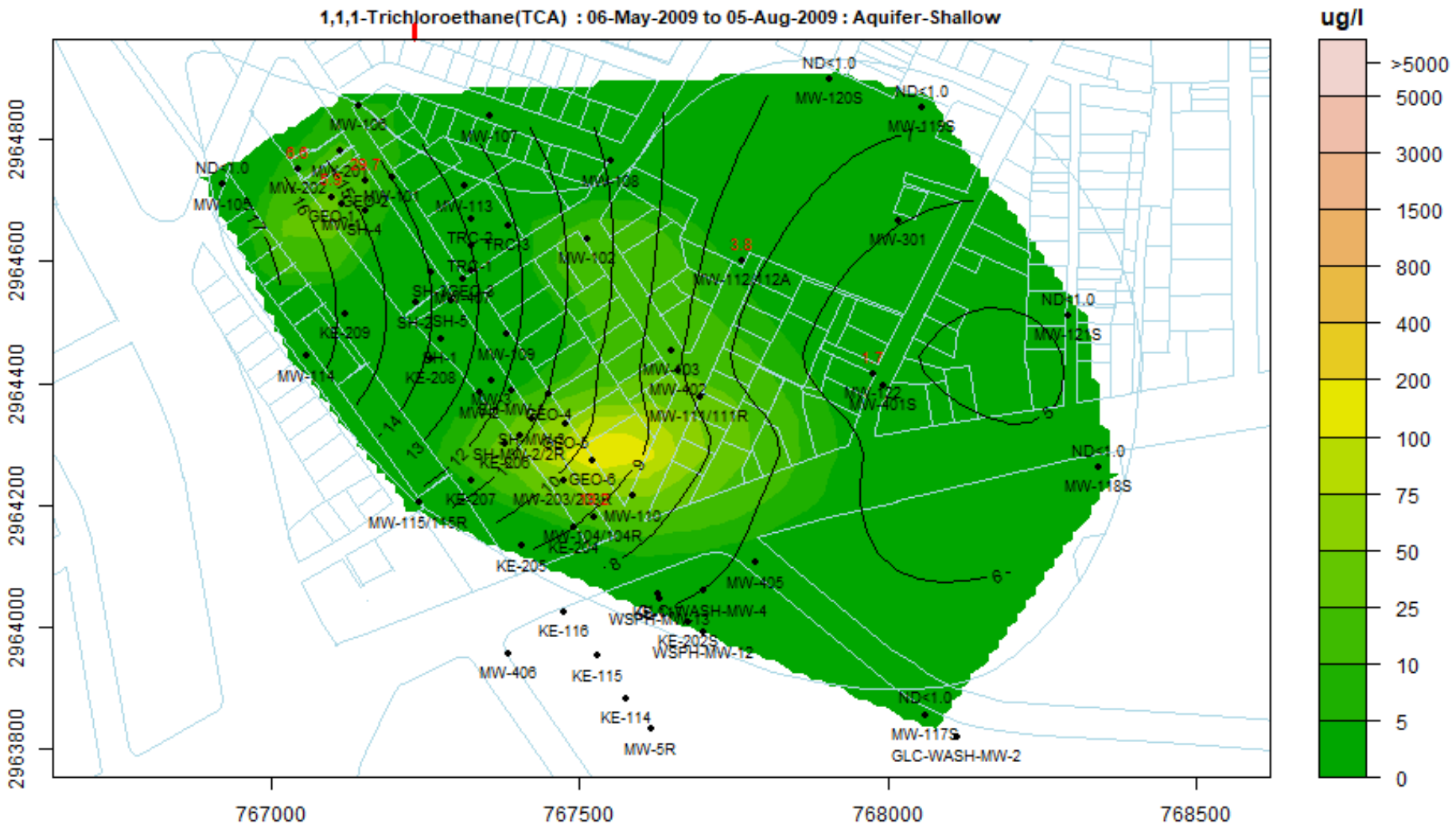
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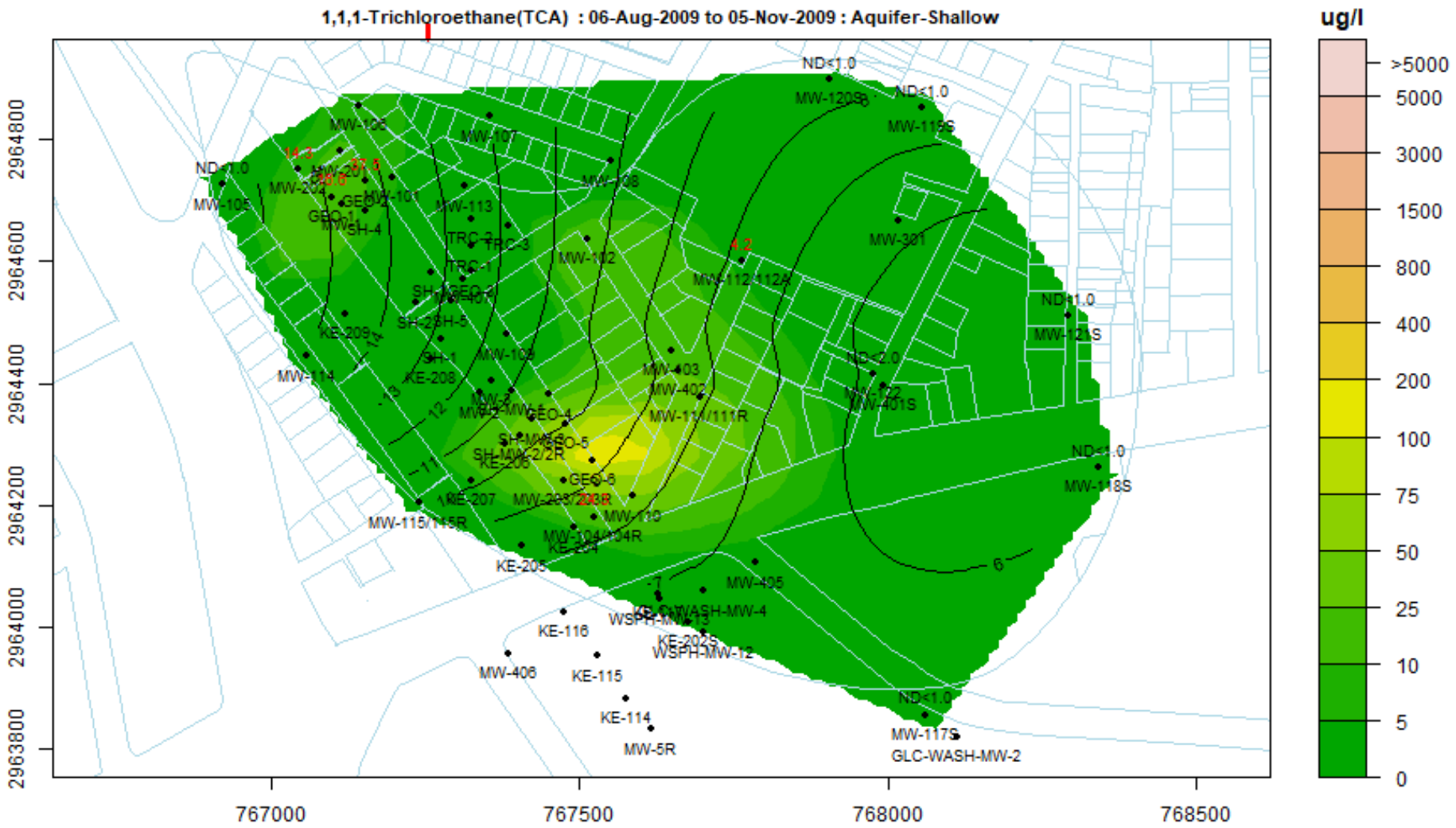
1,1,1-Trichloroethane(TCA) : 06-Aug-2009 to 05-Nov-2009 : Aquifer-Shallow
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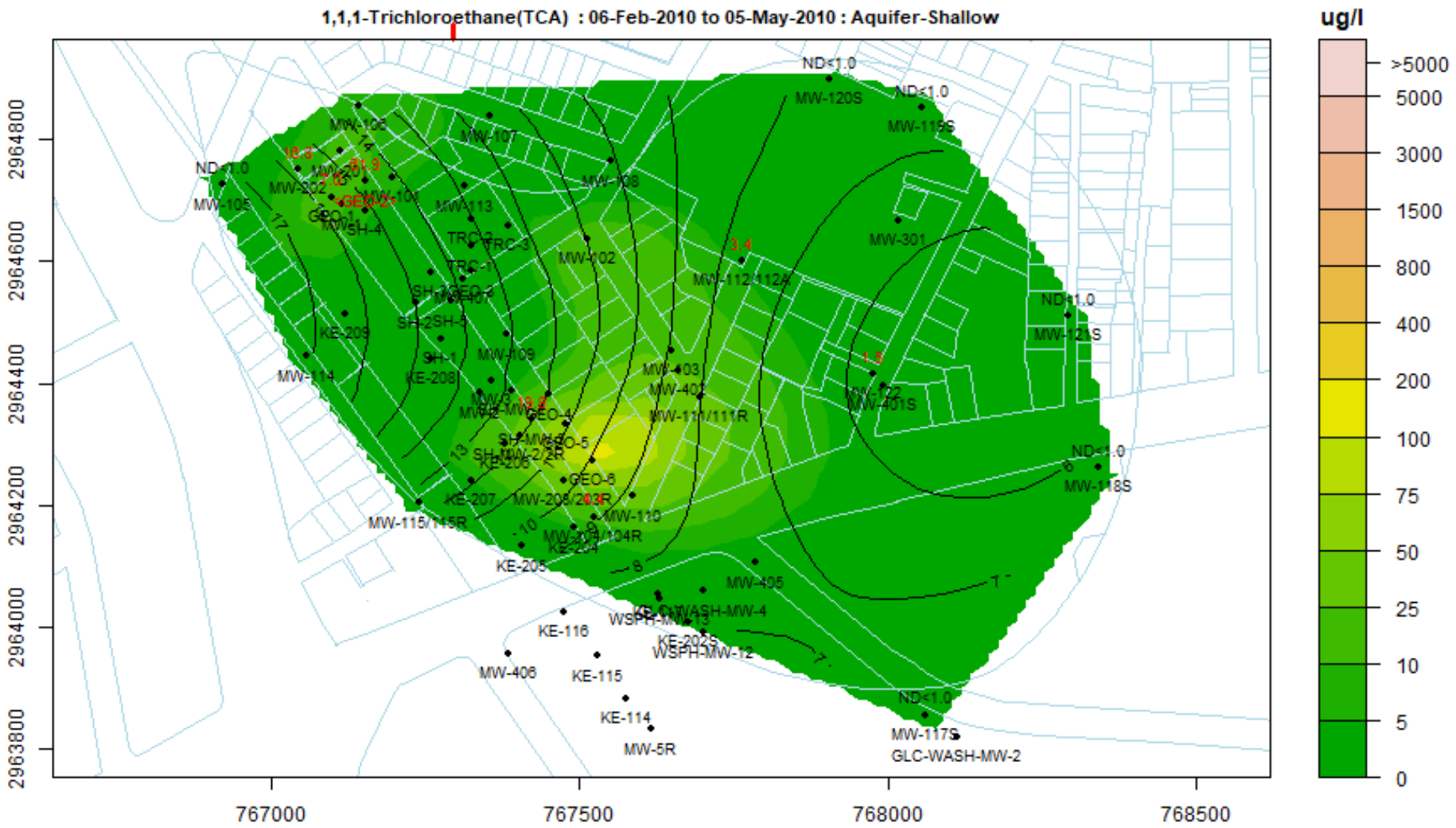
1,1,1-Trichloroethane(TCA) : 06-Feb-2010 to 05-May-2010 : Aquifer-Shallow
ug/l
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767000
767500
768000
768500
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MW-119S
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MW-117S
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MW-111/111R
MW-403
MW-401
MW-112/112R
MW-102
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MW-110
MW-405
MW-406
MW-5R
KE-114
KE-115
KE-116
KE-202S
KE-205
KE-207
KE-208
KE-209
MW-114
MW-115/115R
MW-105
MW-202
MW-201
MW-104
MW-106
GEO-1
GEO-2
GEO-3
GEO-4
GEO-5
GEO-6
TRC-1
TRC-2
TRC-3
SH-1
SH-2
SH-3
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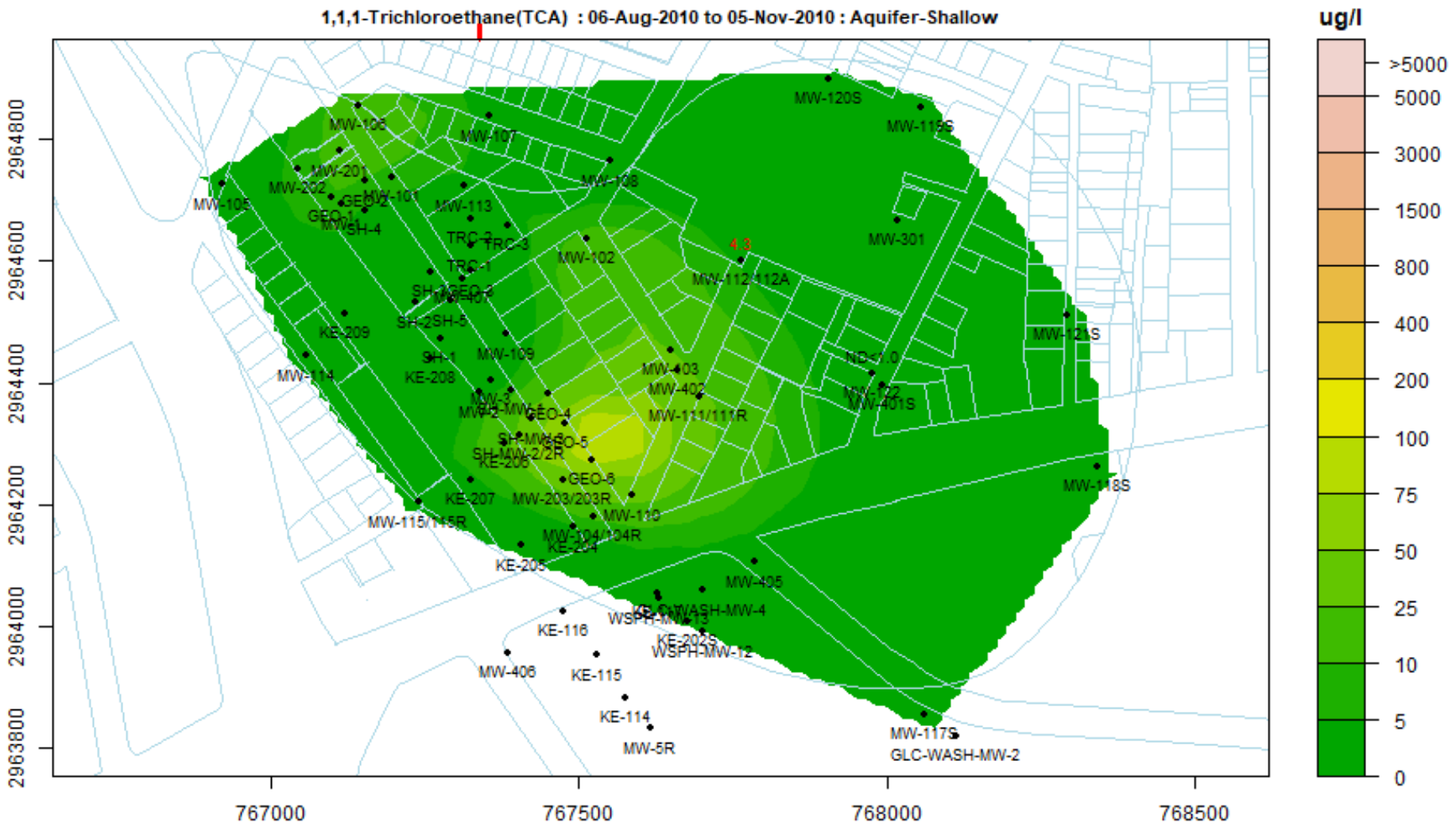
WSPH-MW-13
GLC-WASH-MW-4


1,1,1-Trichloroethane(TCA) : 06-Aug-2010 to 05-Nov-2010 : Aquifer-Shallow
ug/l
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MW-120S
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MW-301
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MW-117S
GLC-WASH-MW-2
MW-105
MW-106
MW-107
MW-108
MW-201
MW-202
GEO-2
MW-101
GEO-1
MW-4
MW-113
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TRC-3
TRC-1
MW-102
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SH-2
SH-3
KE-209
MW-114
SH-1
KE-208
MW-109
MW-3
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GEO-5
SH-MW-2/2R
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GEO-6
KE-207
MW-203/203R
MW-110
MW-115/115R
MW-104/104R
KE-204
KE-205
MW-405
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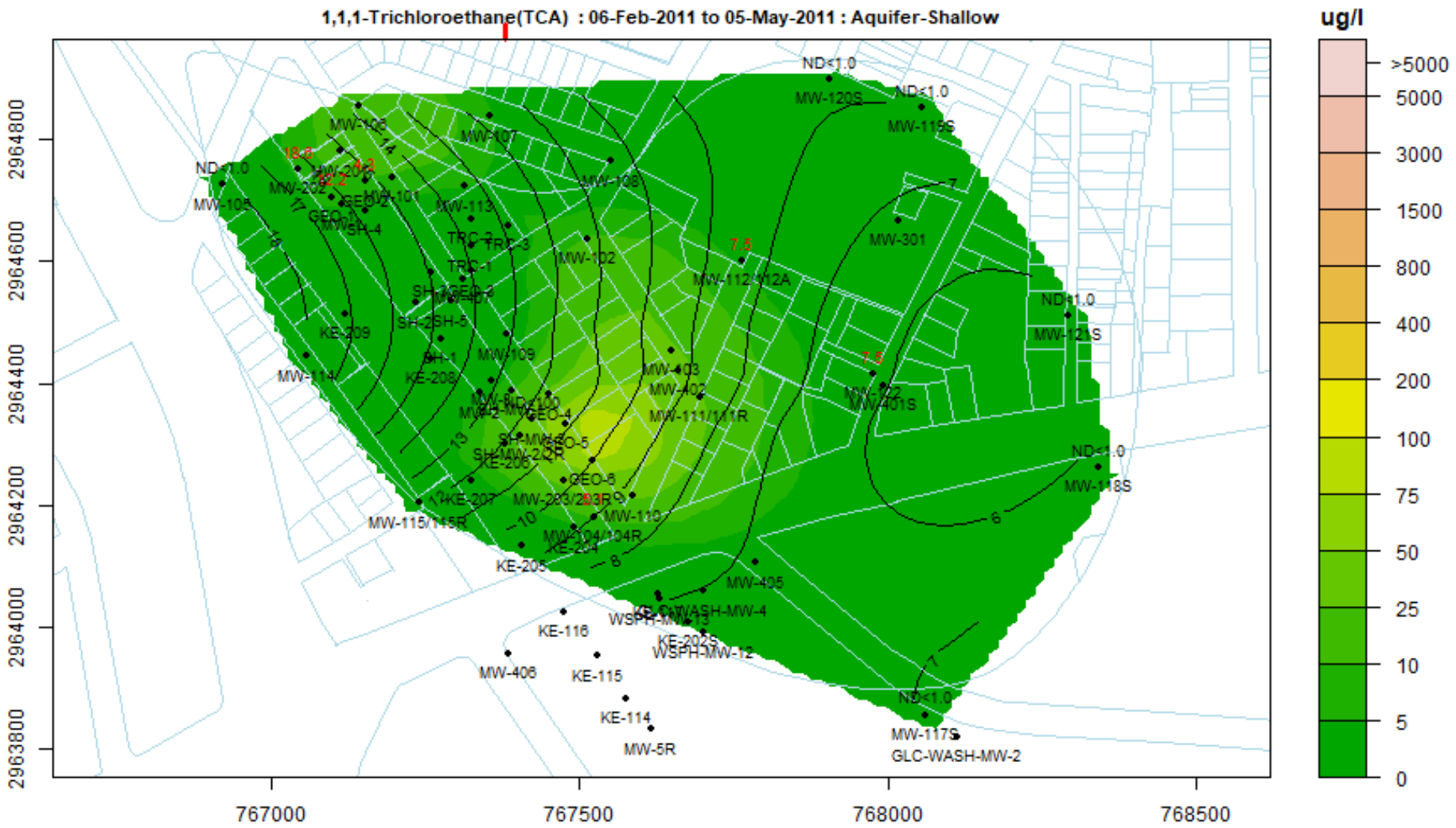
1,1,1-Trichloroethane(TCA) : 06-Feb-2011 to 05-May-2011 : Aquifer-Shallow
ug/l
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767500
768000
768500
ND<1.0
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MW-111/111R
MW-403
MW-402
MW-405
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MW-101
MW-103
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MW-114
MW-115/115R
MW-406
MW-5R
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KE-208
KE-207
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KE-115
KE-114
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WSPH-MW-13
GLC-WASH-MW-4
TRC-1
TRC-2
TRC-3
SH-1
SH-2
SH-3
SH-4
SH-5
SH-MW-2
SH-MW-2R
SH-MW-3
GEO-1
GEO-2
GEO-3
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GEO-5
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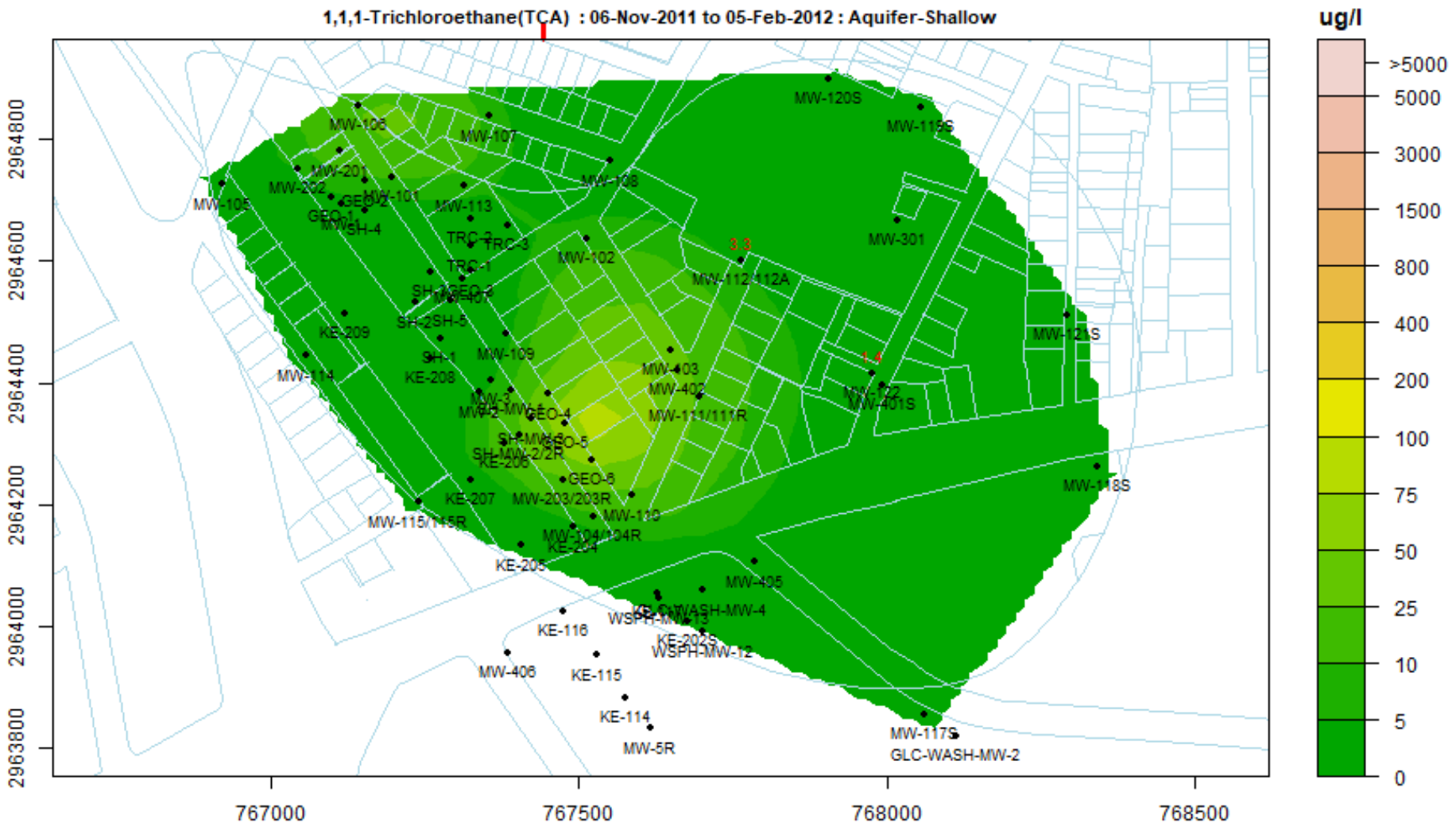
1,1,1-Trichloroethane(TCA) : 06-Nov-2011 to 05-Feb-2012 : Aquifer-Shallow
ug/l
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MW-111/111R
MW-114
MW-118S
MW-203/203R
MW-110
MW-115/115R
MW-104/104R
MW-405
MW-116
MW-406
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MW-114
MW-5R
MW-117S
GLC-WASH-MW-2
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GEO-3
GEO-4
GEO-5
GEO-6
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TRC-3
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SH-3
SH-4
SH-MW-2/2R
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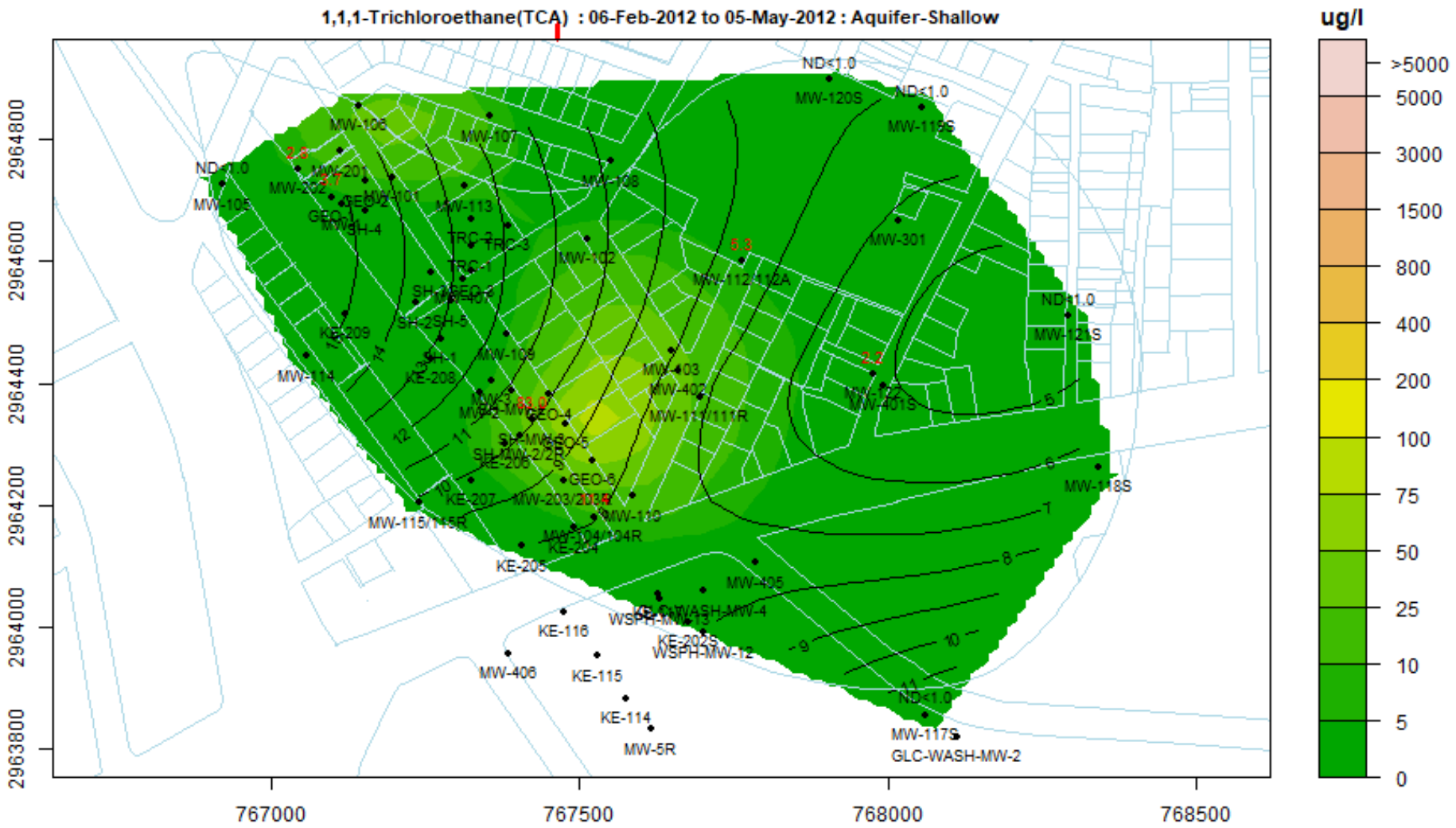
1.4


1,1,1-Trichloroethane(TCA) : 06-Feb-2012 to 05-May-2012 : Aquifer-Shallow
ug/l
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2964200
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767000
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768500
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TRC-3
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GEO-6
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MW-115/115R
MW-104/104R
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MW-405
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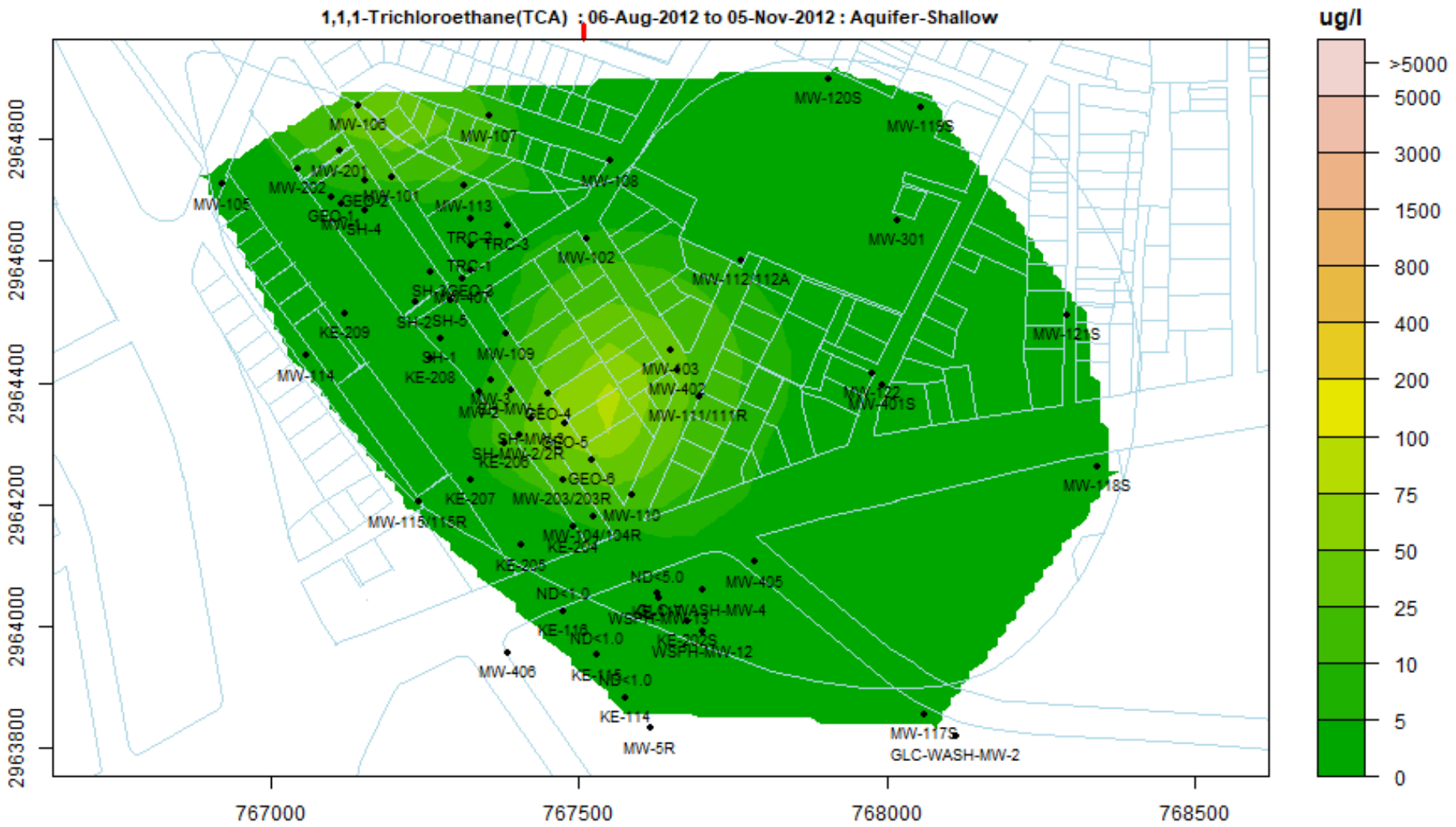
KE-114
MW-5R
MW-117S
GLC-WASH-MW-2


1,1,1-Trichloroethane(TCA) : 06-Aug-2012 to 05-Nov-2012 : Aquifer-Shallow
ug/l
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MW-104/104R
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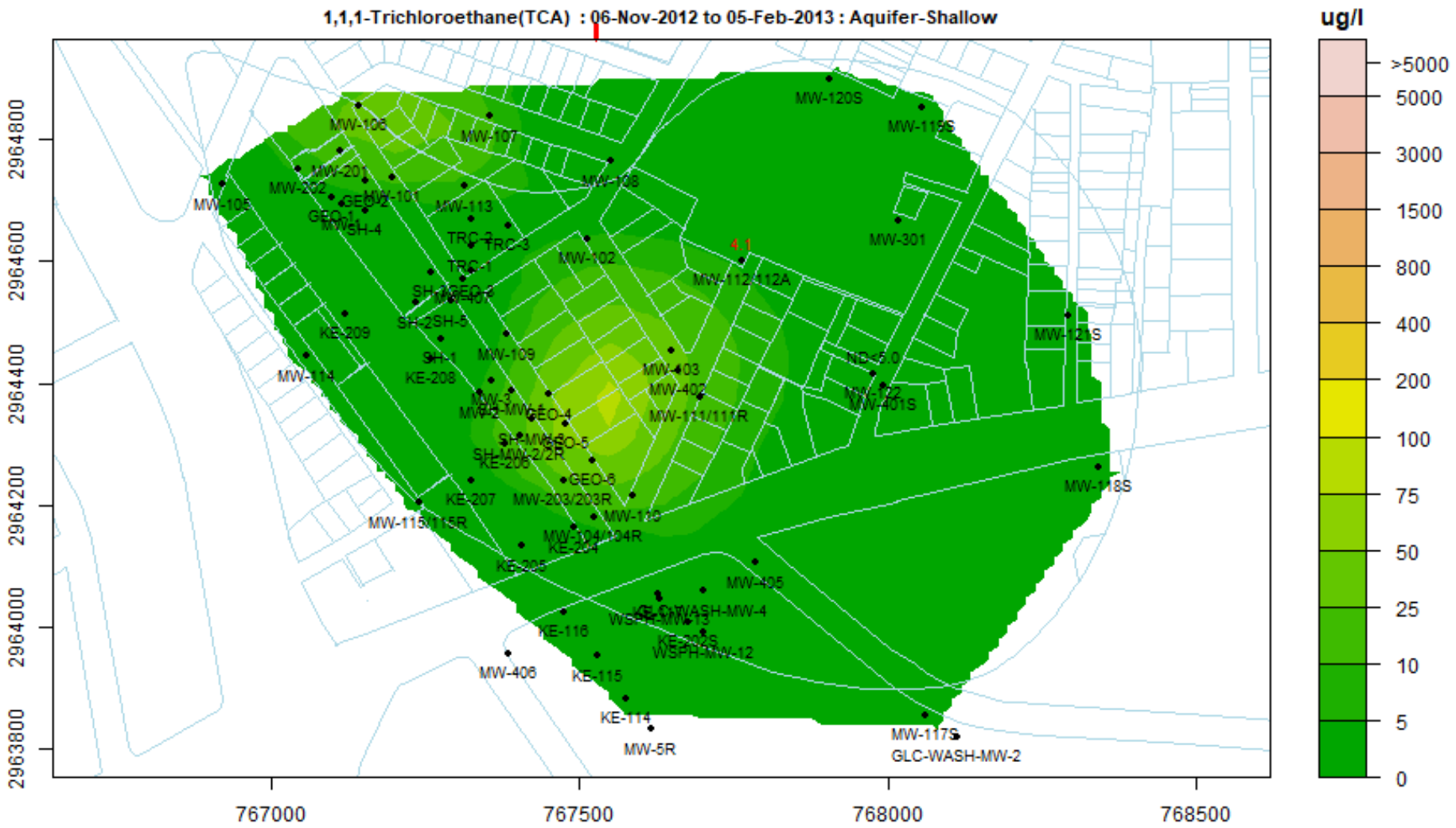
1,1,1-Trichloroethane(TCA) : 06-Nov-2012 to 05-Feb-2013 : Aquifer-Shallow
ug/l
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MW-405
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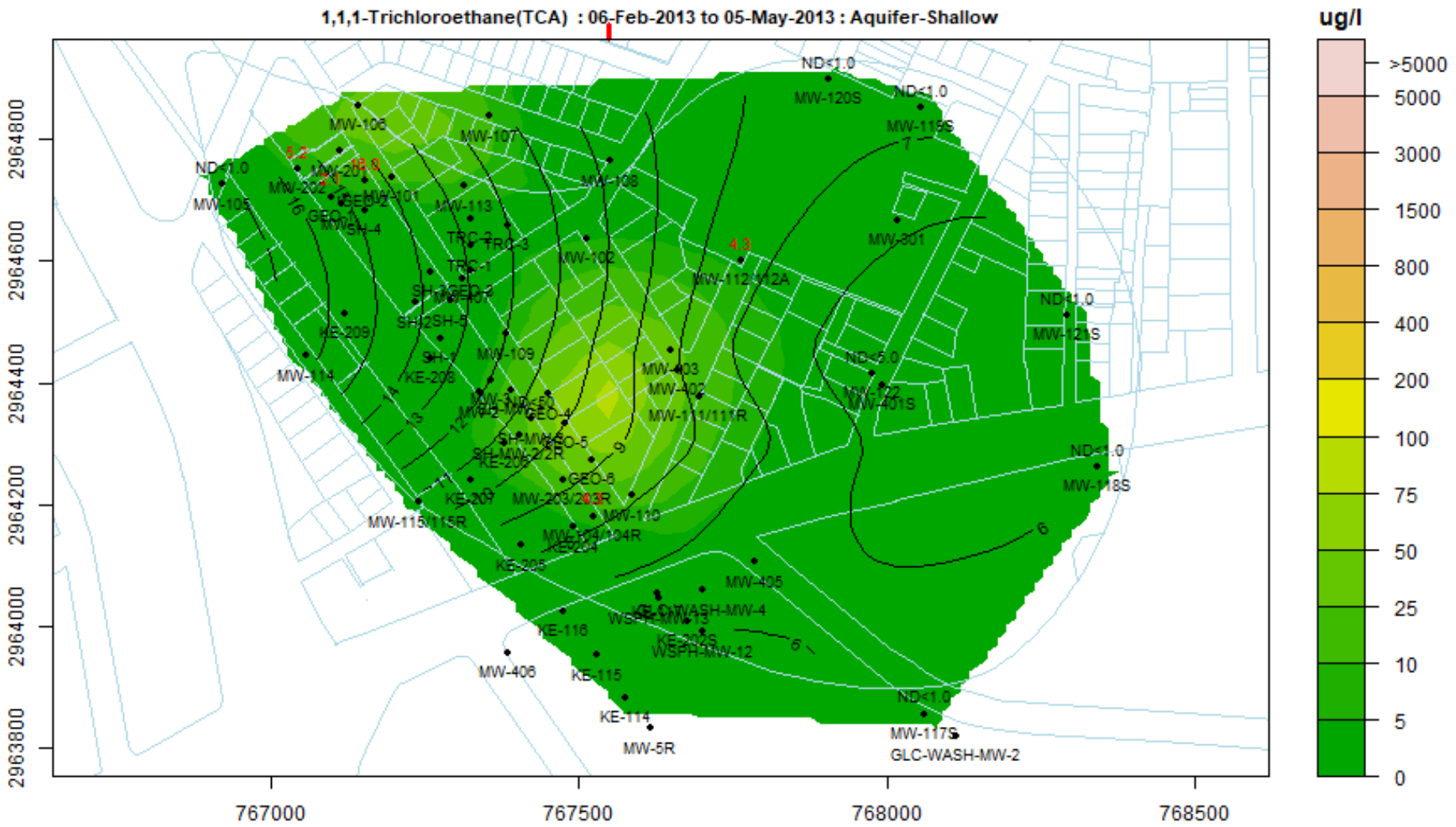
1,1,1-Trichloroethane(TCA) : 06-Feb-2013 to 05-May-2013 : Aquifer-Shallow
ug/l
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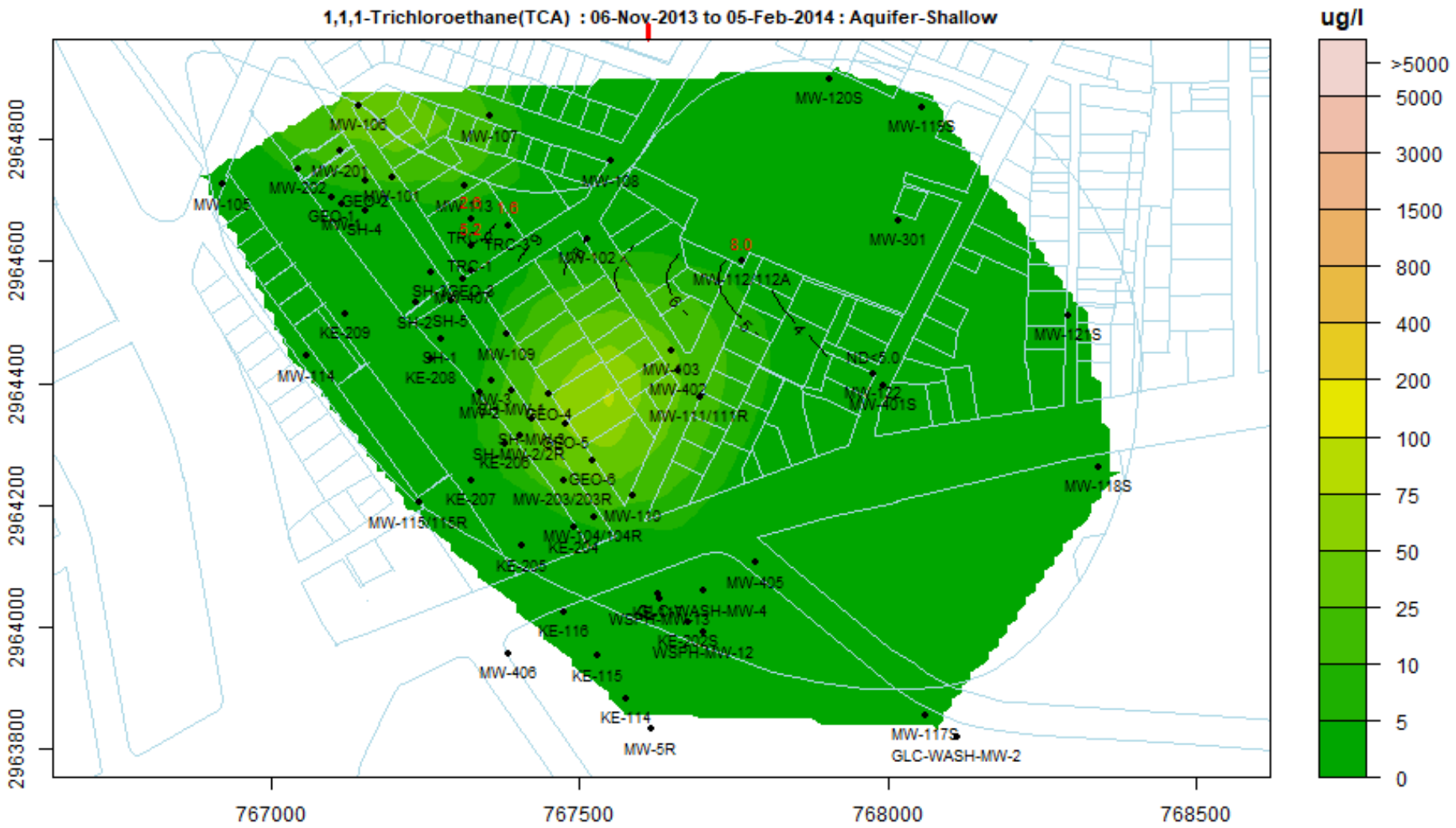
1,1,1-Trichloroethane(TCA) : 06-Nov-2013 to 05-Feb-2014 : Aquifer-Shallow
ug/l
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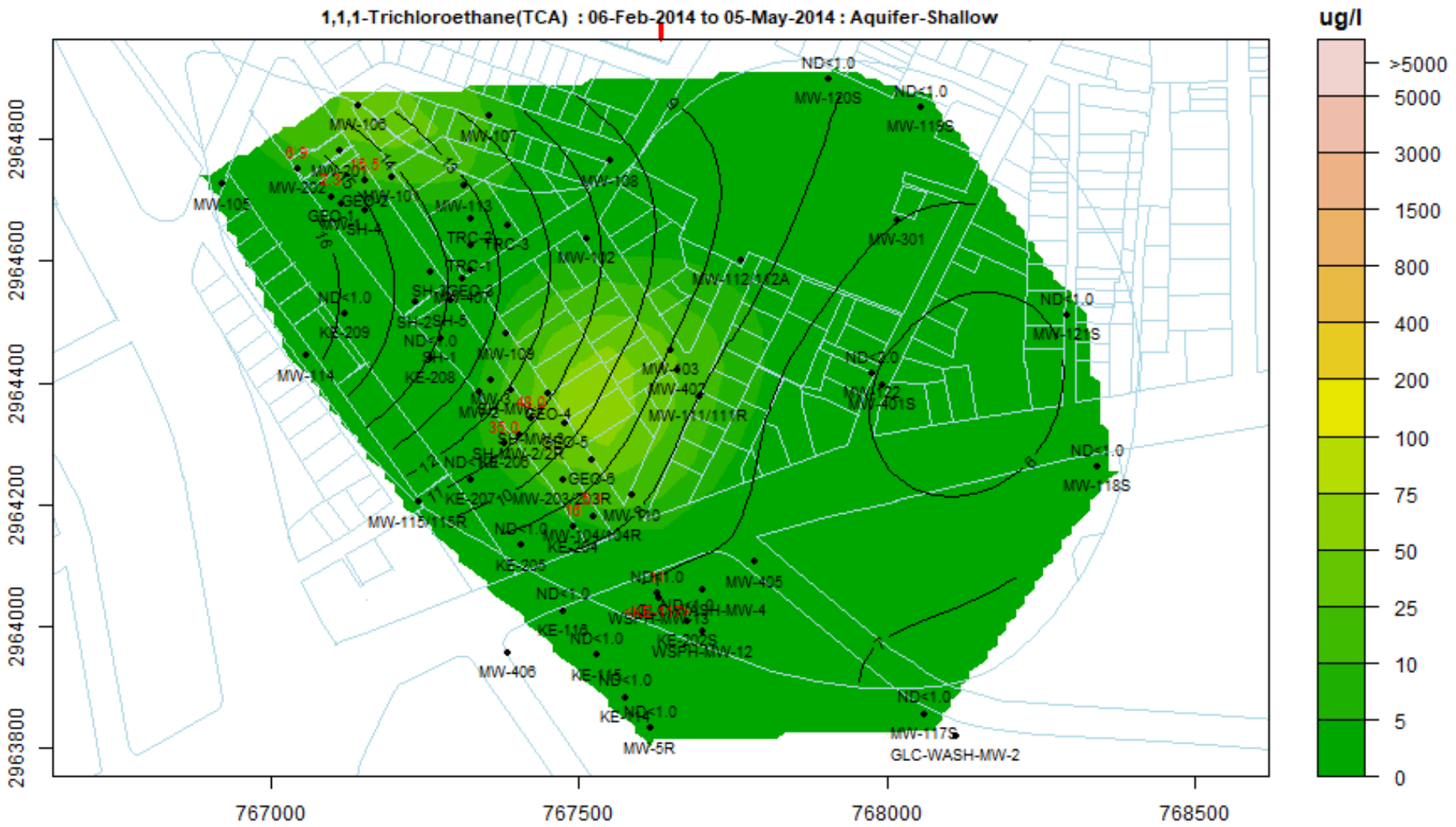
1,1,1-Trichloroethane(TCA) : 06-Feb-2014 to 05-May-2014 : Aquifer-Shallow
ug/l
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GEO-3
GEO-4
GEO-5
GEO-6
TRC-1
TRC-2
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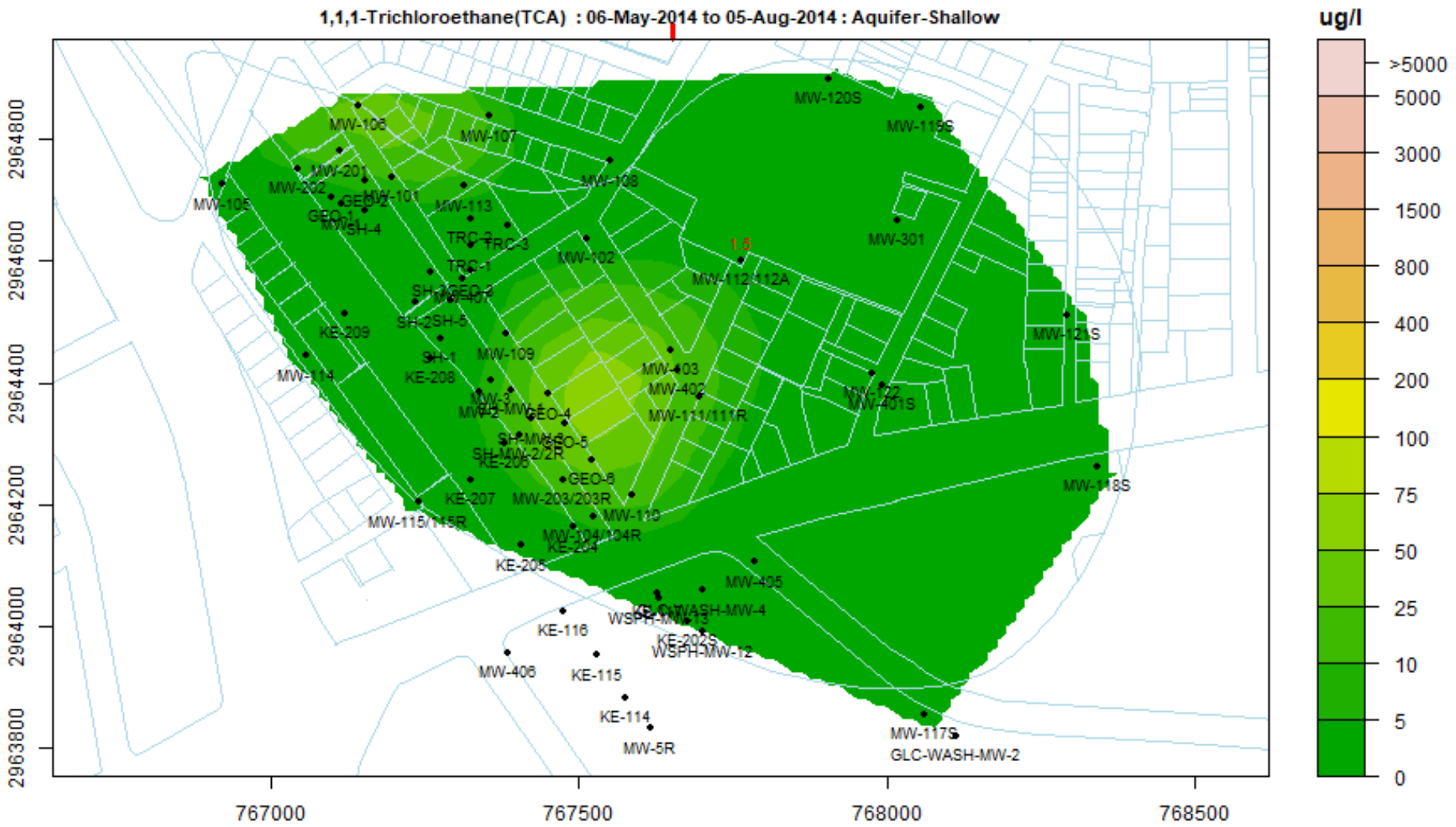
1,1,1-Trichloroethane(TCA) : 06-May-2014 to 05-Aug-2014 : Aquifer-Shallow
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GEO-6
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MW-115/115R
MW-110
MW-104/104R
KE-204
KE-205
MW-405
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WSPH-MW-13
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MW-406
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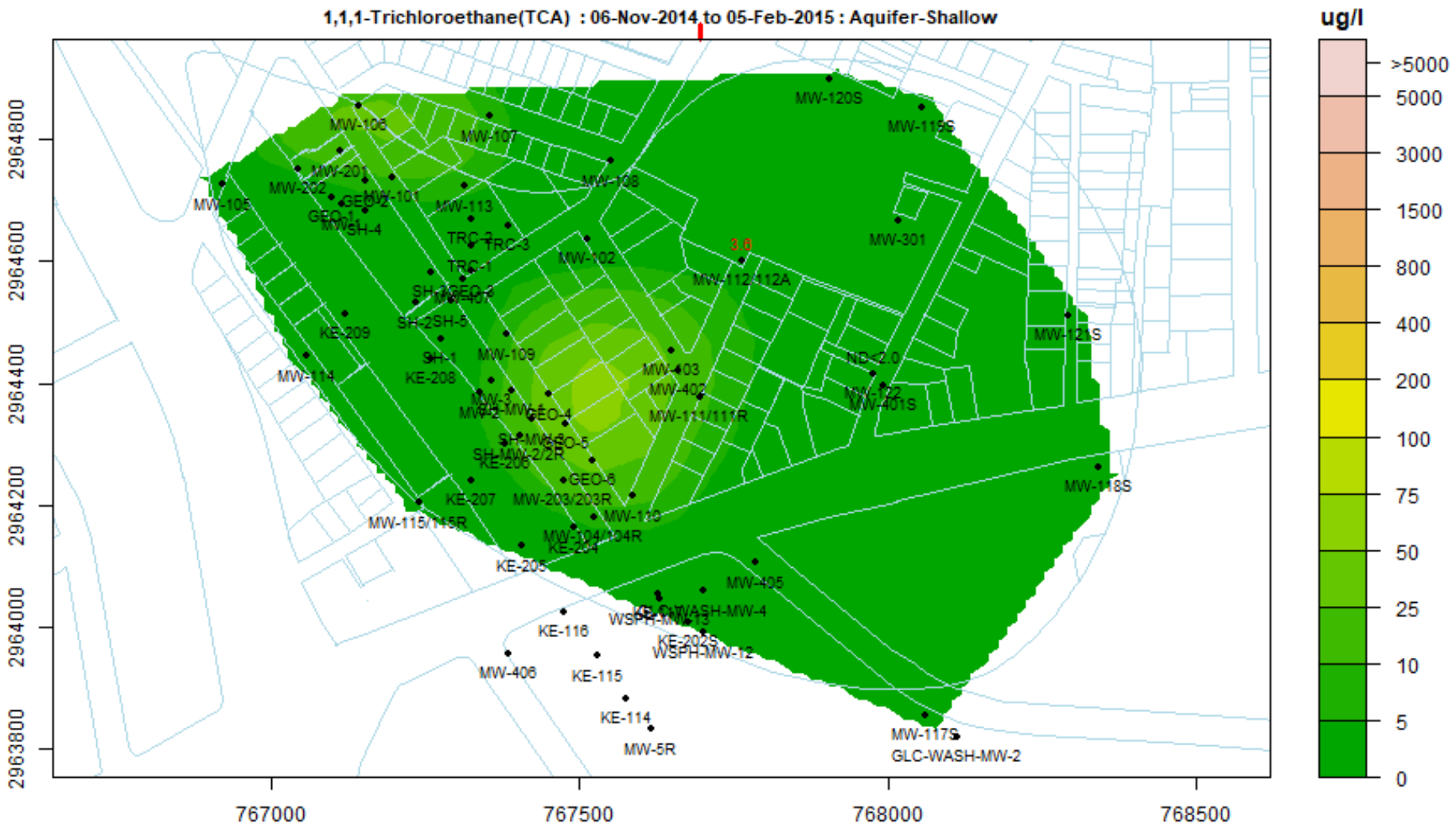
MW-5R
GLC-WASH-MW-2


1,1,1-Trichloroethane(TCA) : 06-Nov-2014 to 05-Feb-2015 : Aquifer-Shallow
ug/l
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MW-114
KE-208
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GEO-5
SH-MW-2/2R
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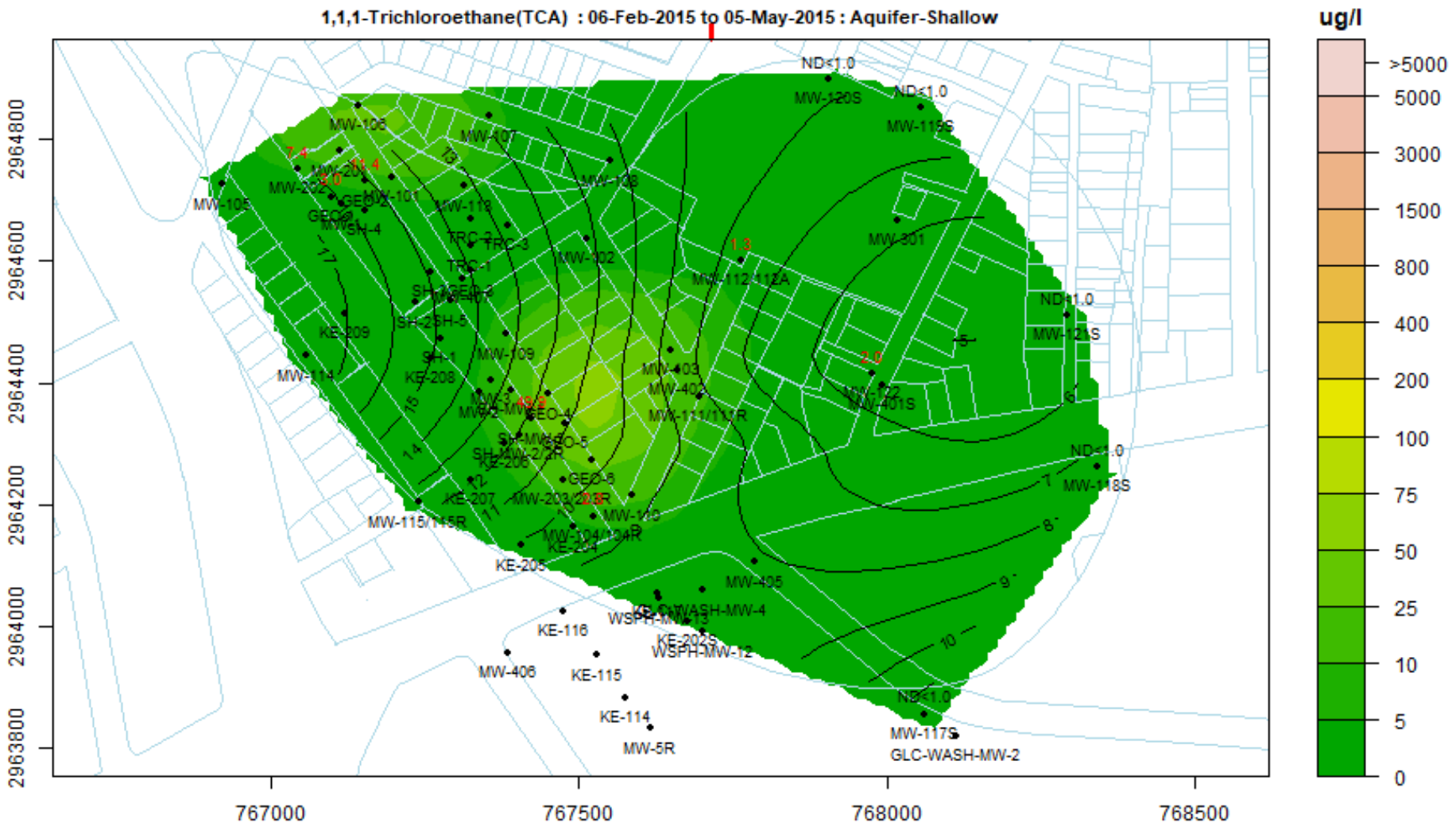
1,1,1-Trichloroethane(TCA) : 06-Feb-2015 to 05-May-2015 : Aquifer-Shallow
ug/l
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MW-111/111R
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KE-202S
WSPH-MW-12
WSPH-MW-13
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GEO-5
GEO-6
TRC-1
TRC-2
TRC-3
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SH-3
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SH-5
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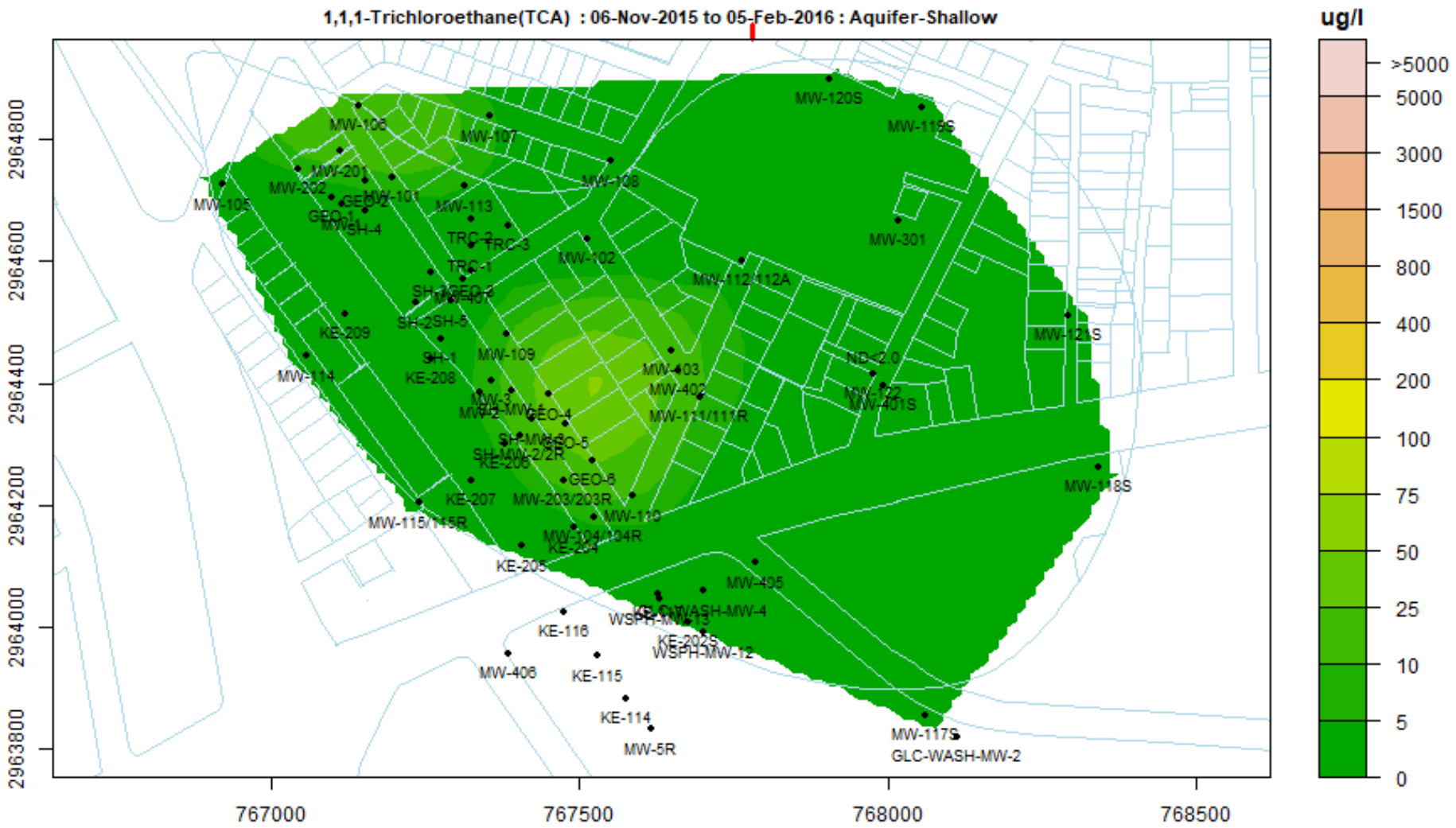
1,1,1-Trichloroethane(TCA) : 06-Nov-2015 to 05-Feb-2016 : Aquifer-Shallow
ug/l
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KE-205
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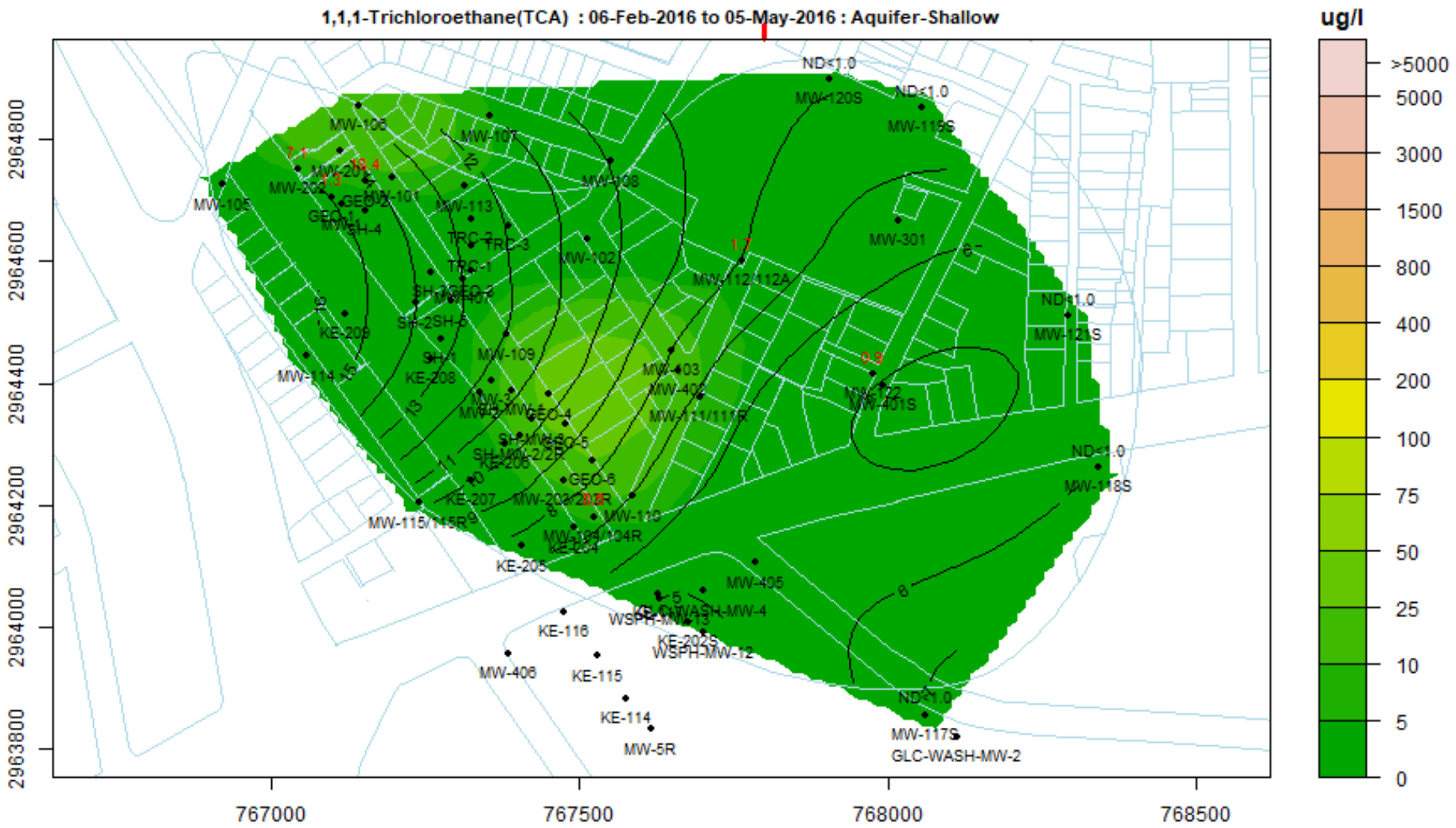
1,1,1-Trichloroethane(TCA) : 06-Feb-2016 to 05-May-2016 : Aquifer-Shallow
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TRC-2
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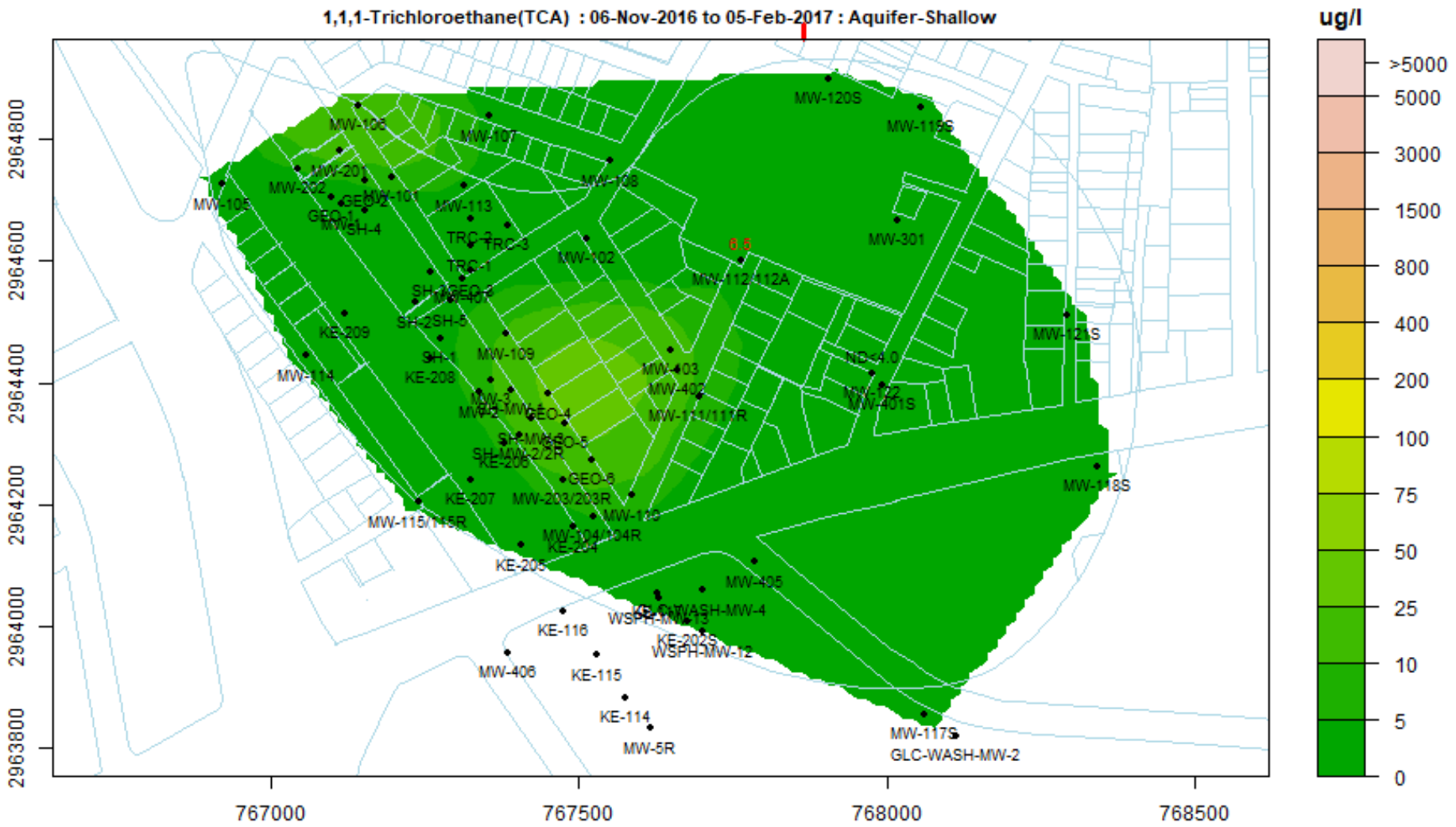
1,1,1-Trichloroethane(TCA) : 06-Nov-2016 to 05-Feb-2017 : Aquifer-Shallow
ug/l
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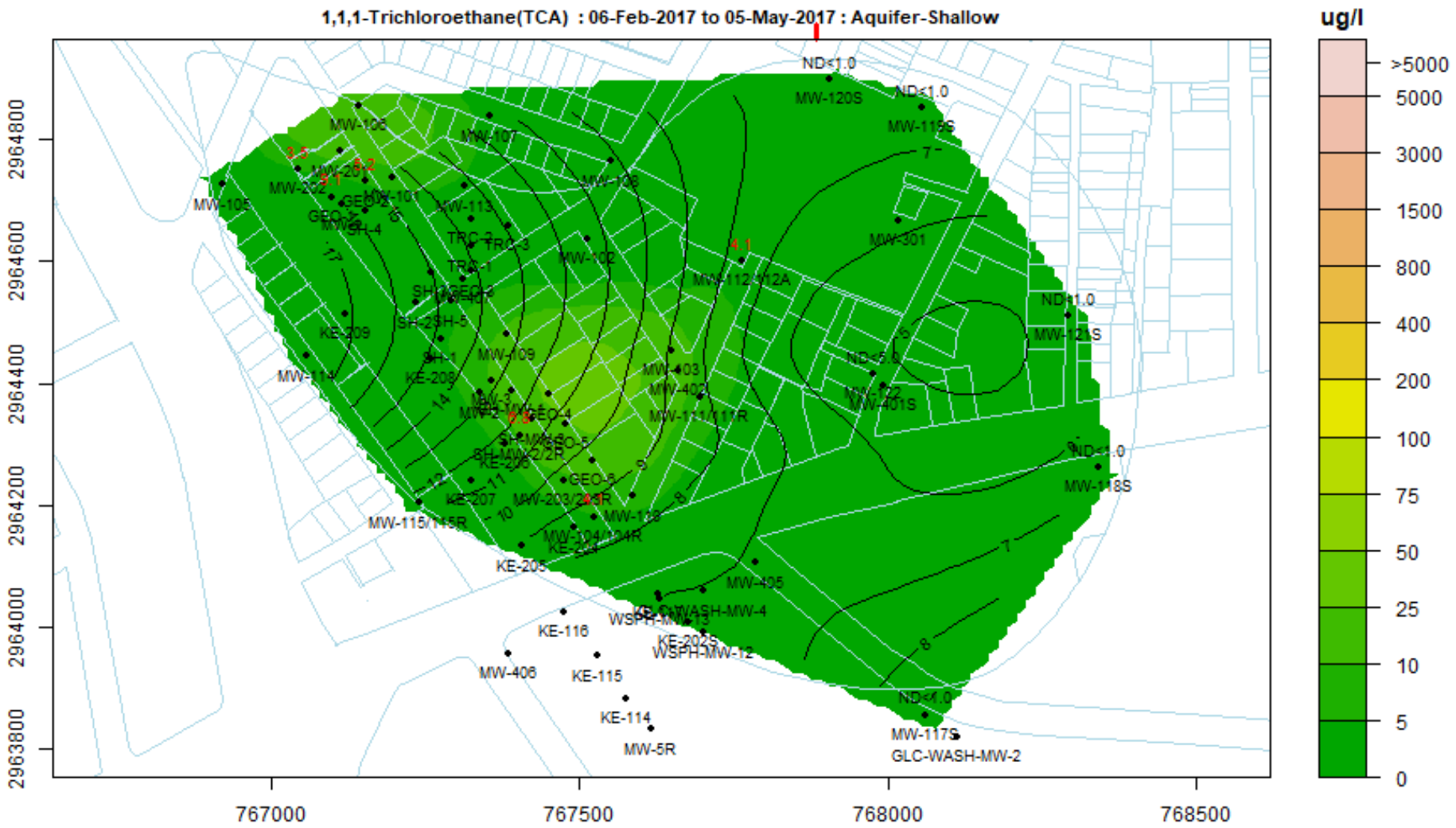
1,1,1-Trichloroethane(TCA) : 06-Feb-2017 to 05-May-2017 : Aquifer-Shallow
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SH-3
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SH-MW4/4R
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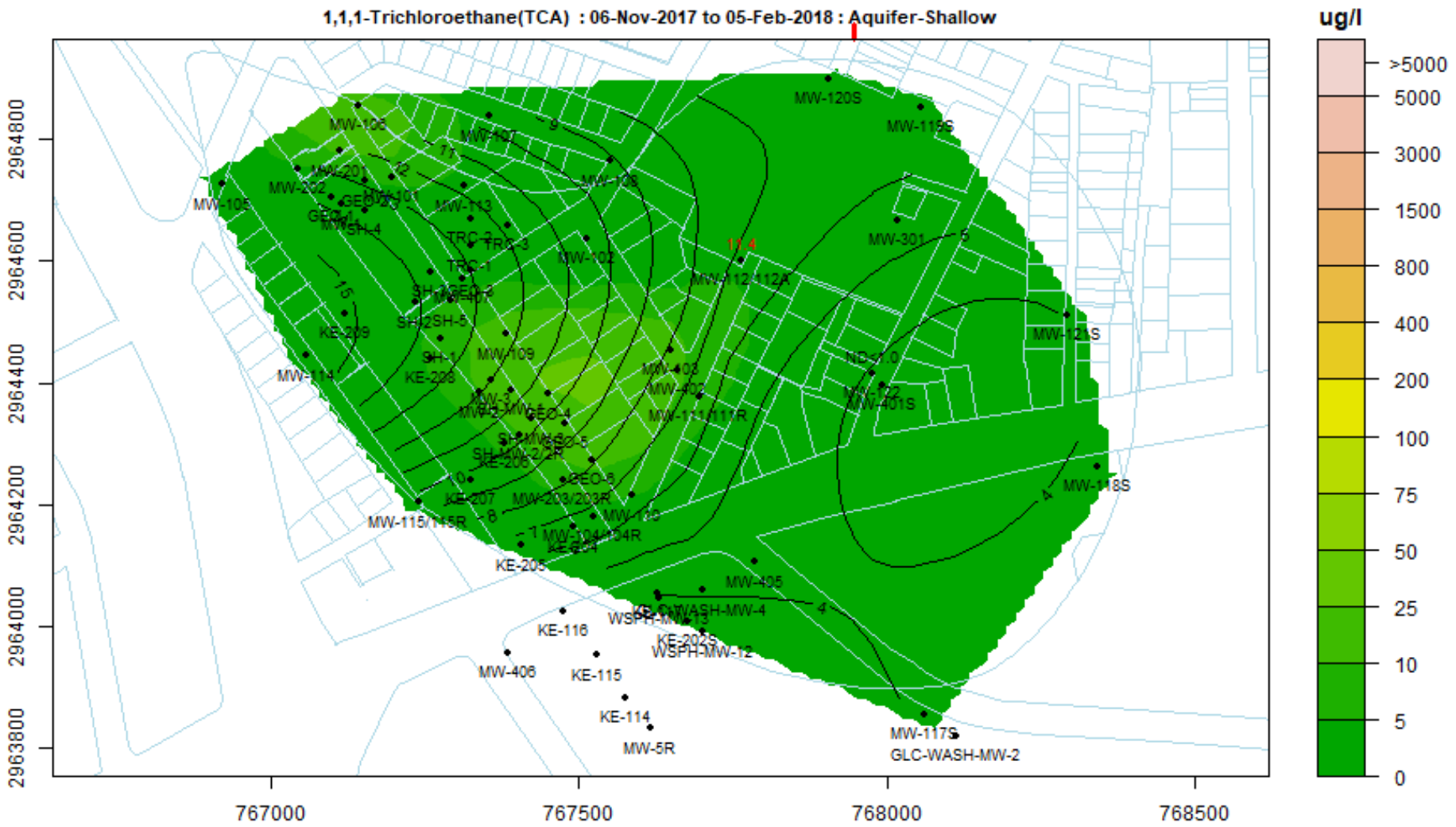
1,1,1-Trichloroethane(TCA) : 06-Nov-2017 to 05-Feb-2018 : Aquifer-Shallow
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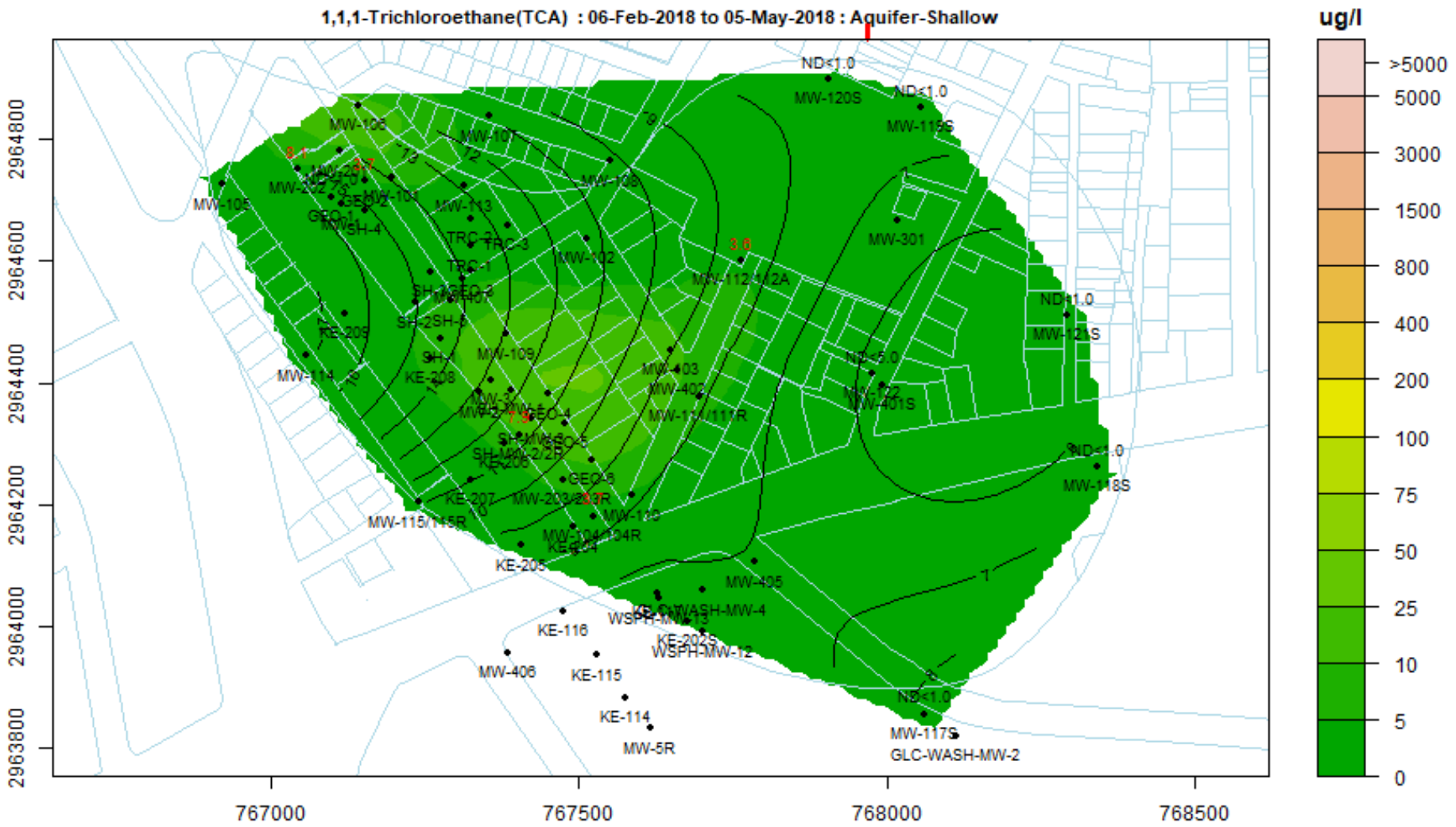
1,1,1-Trichloroethane(TCA) : 06-Feb-2018 to 05-May-2018 : Aquifer-Shallow
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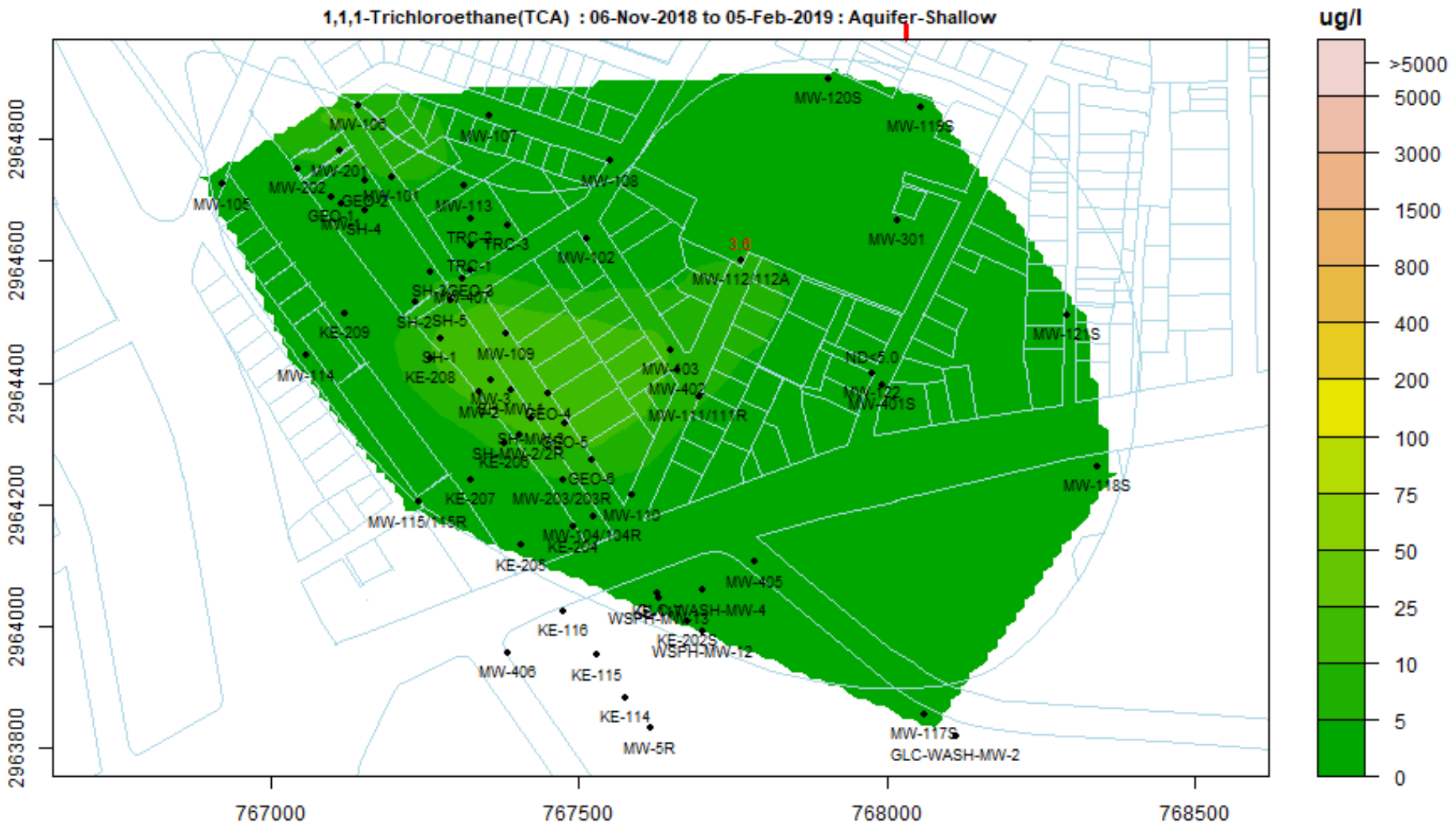
1,1,1-Trichloroethane(TCA) : 06-Nov-2018 to 05-Feb-2019 : Aquifer-Shallow
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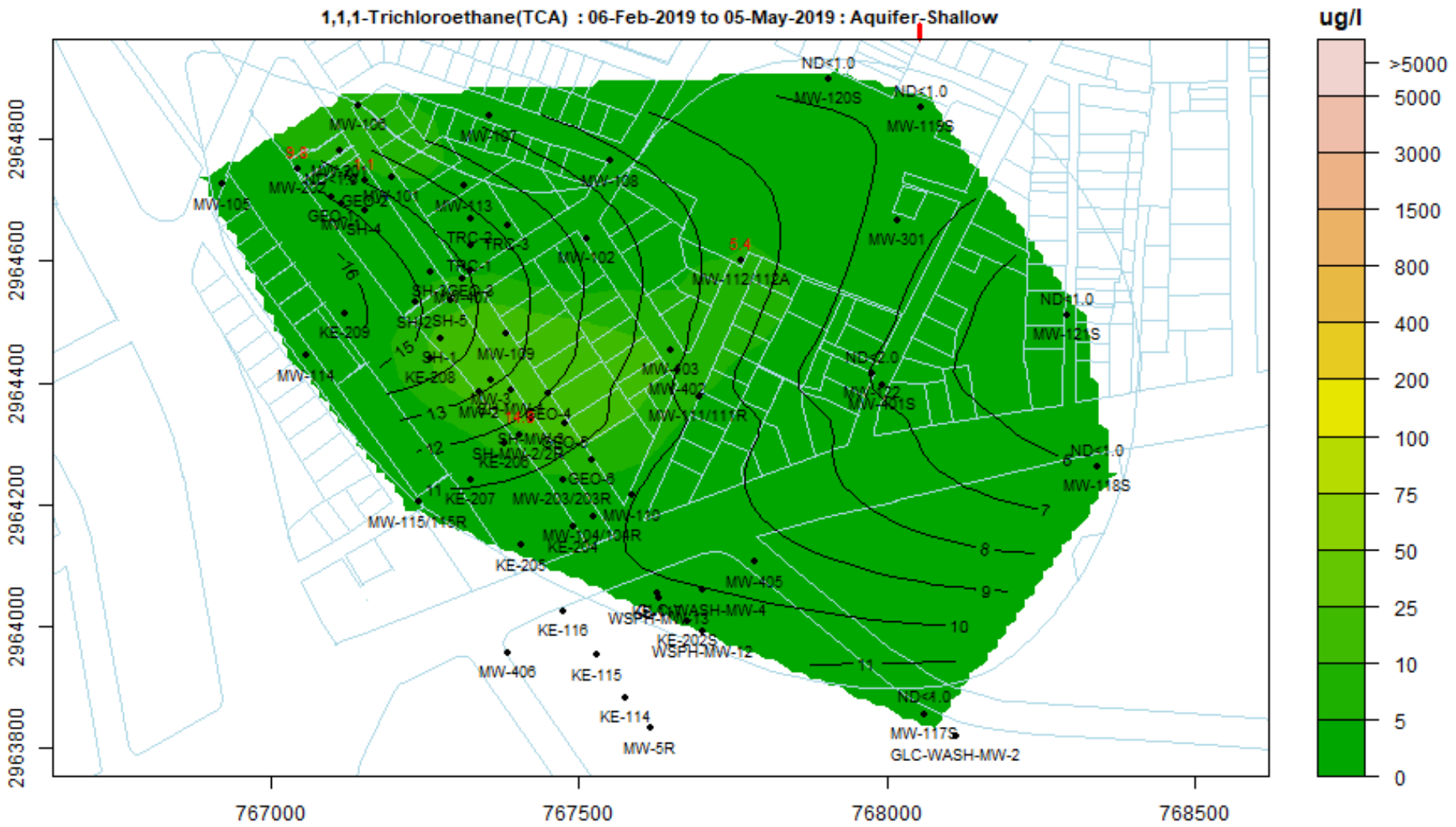
1,1,1-Trichloroethane(TCA) : 06-Feb-2019 to 05-May-2019 : Aquifer-Shallow
ug/l
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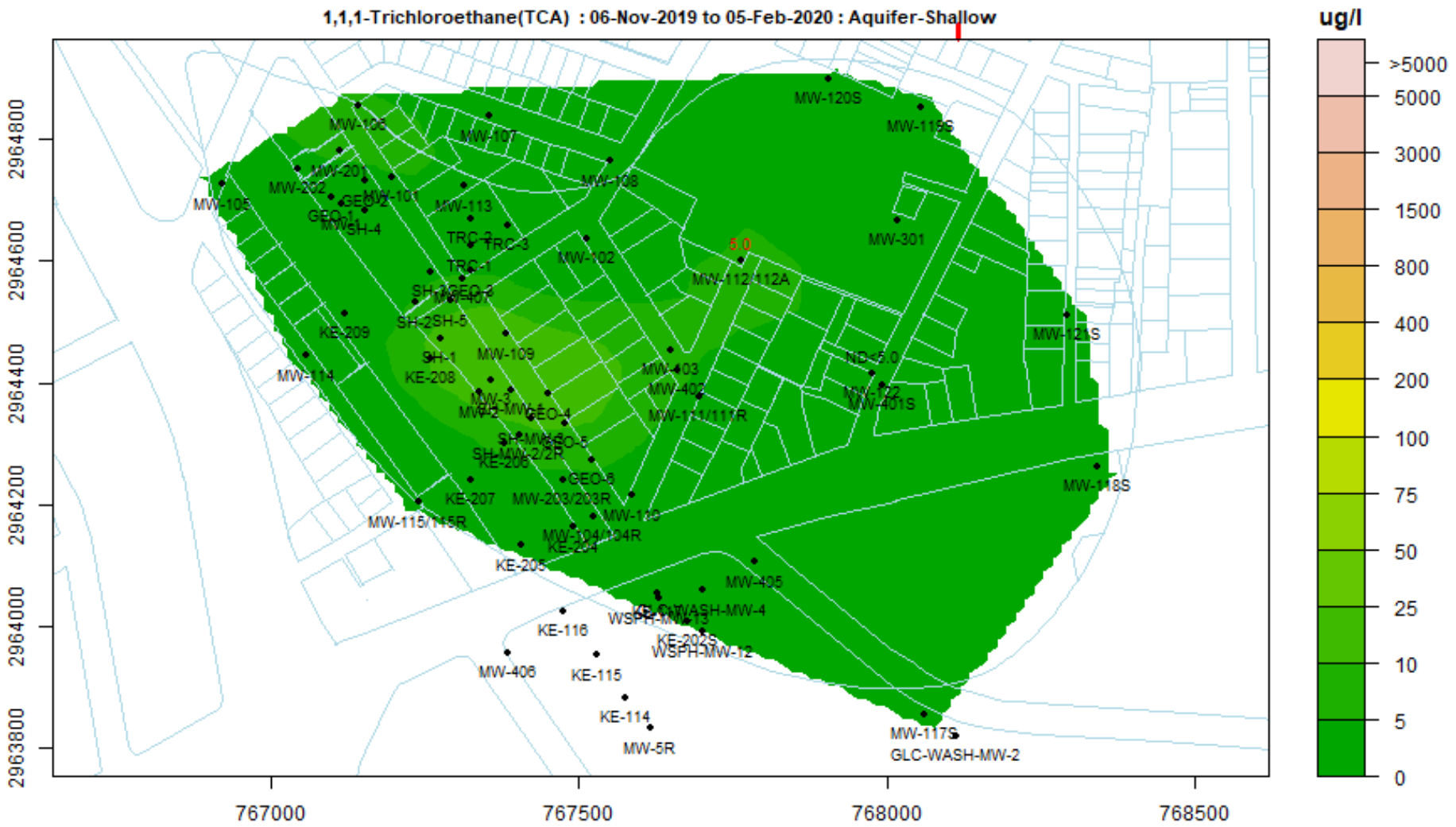
1,1,1-Trichloroethane(TCA) : 06-Nov-2019 to 05-Feb-2020 : Aquifer-Shallow
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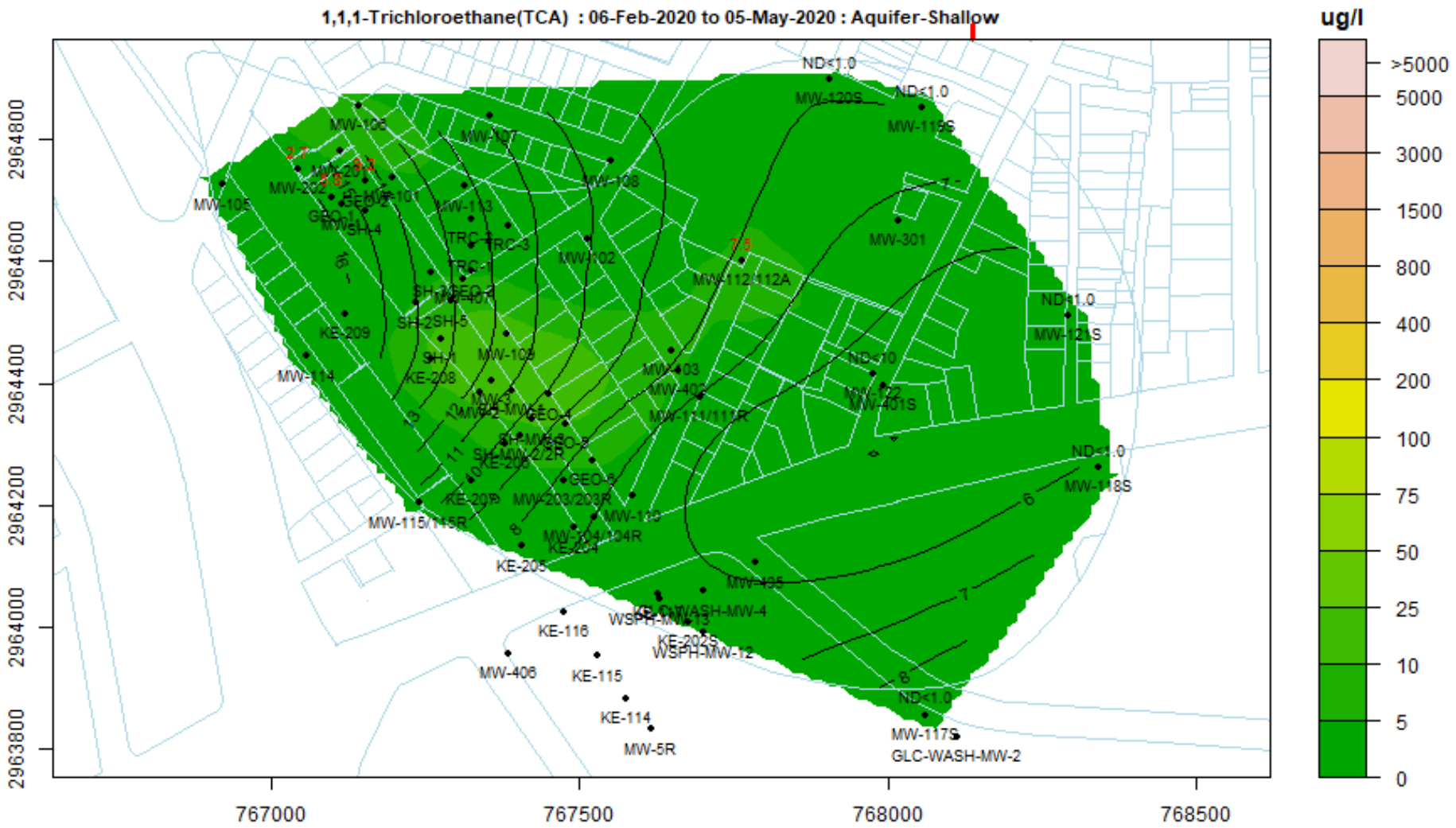
1,1,1-Trichloroethane(TCA) : 06-Feb-2020 to 05-May-2020 : Aquifer-Shallow
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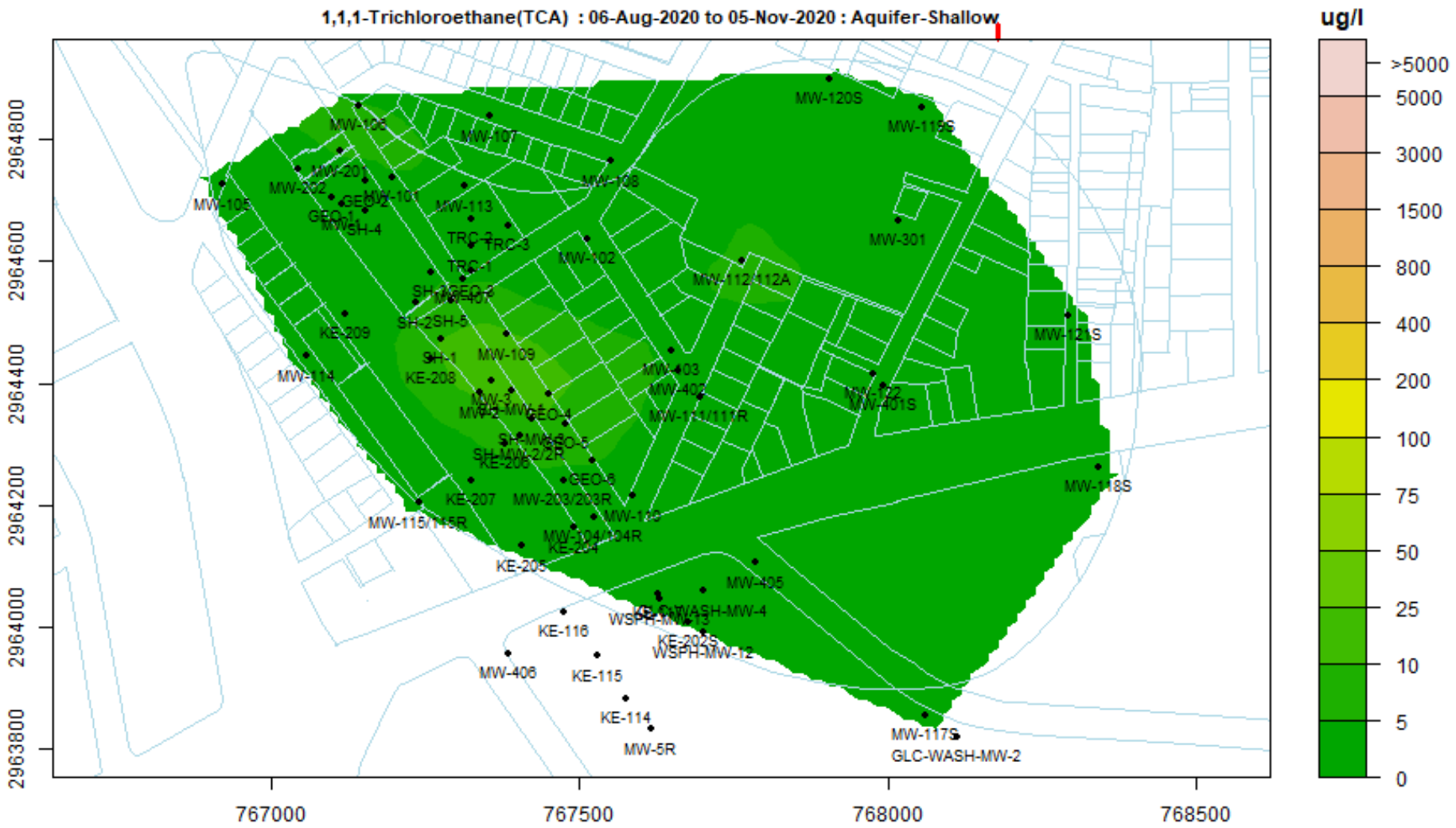
1,1,1-Trichloroethane(TCA) : 06-Aug-2020 to 05-Nov-2020 : Aquifer-Shallow
ug/l
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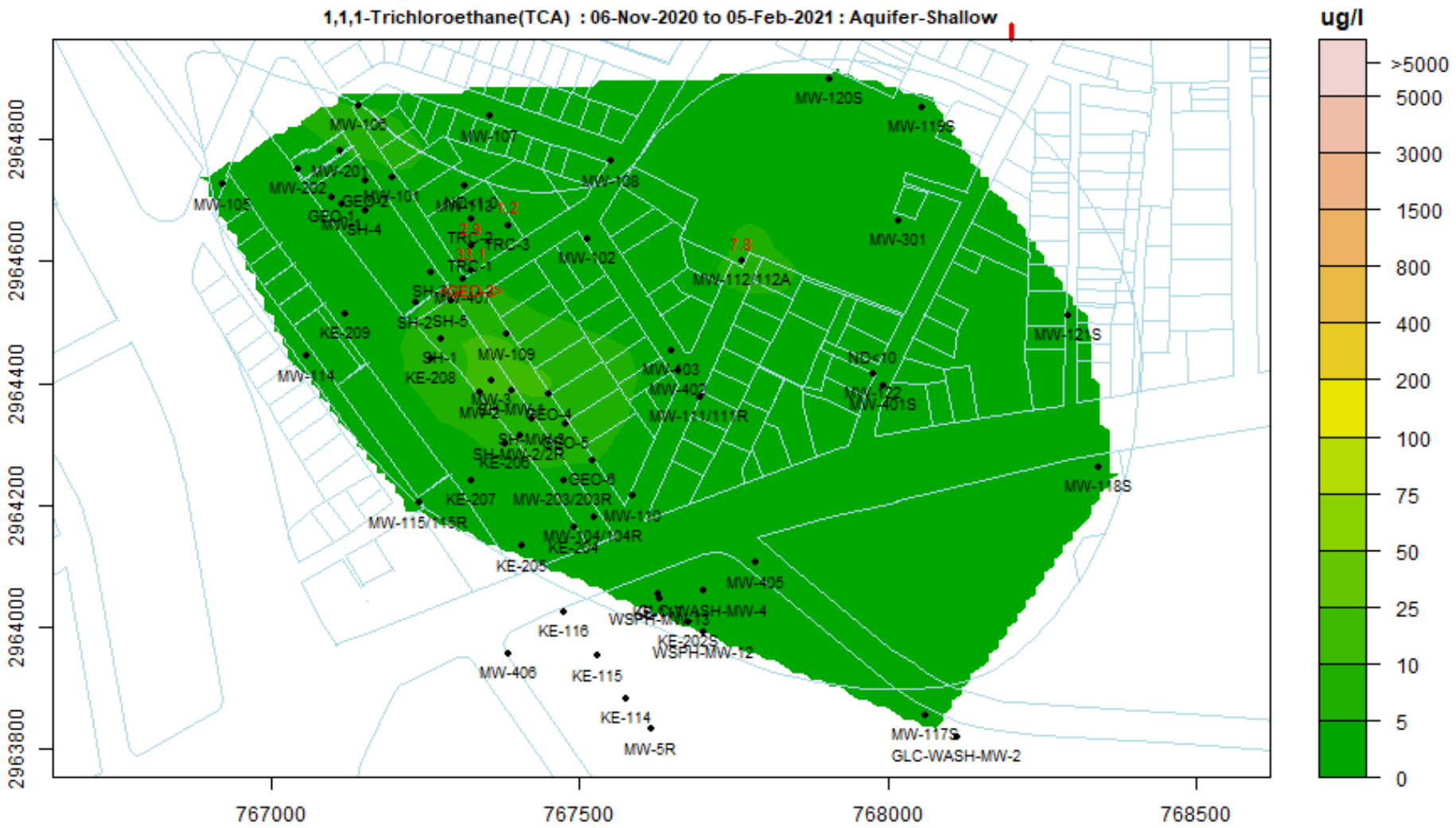
1,1,1-Trichloroethane(TCA) : 06-Nov-2020 to 05-Feb-2021 : Aquifer-Shallow
ug/l
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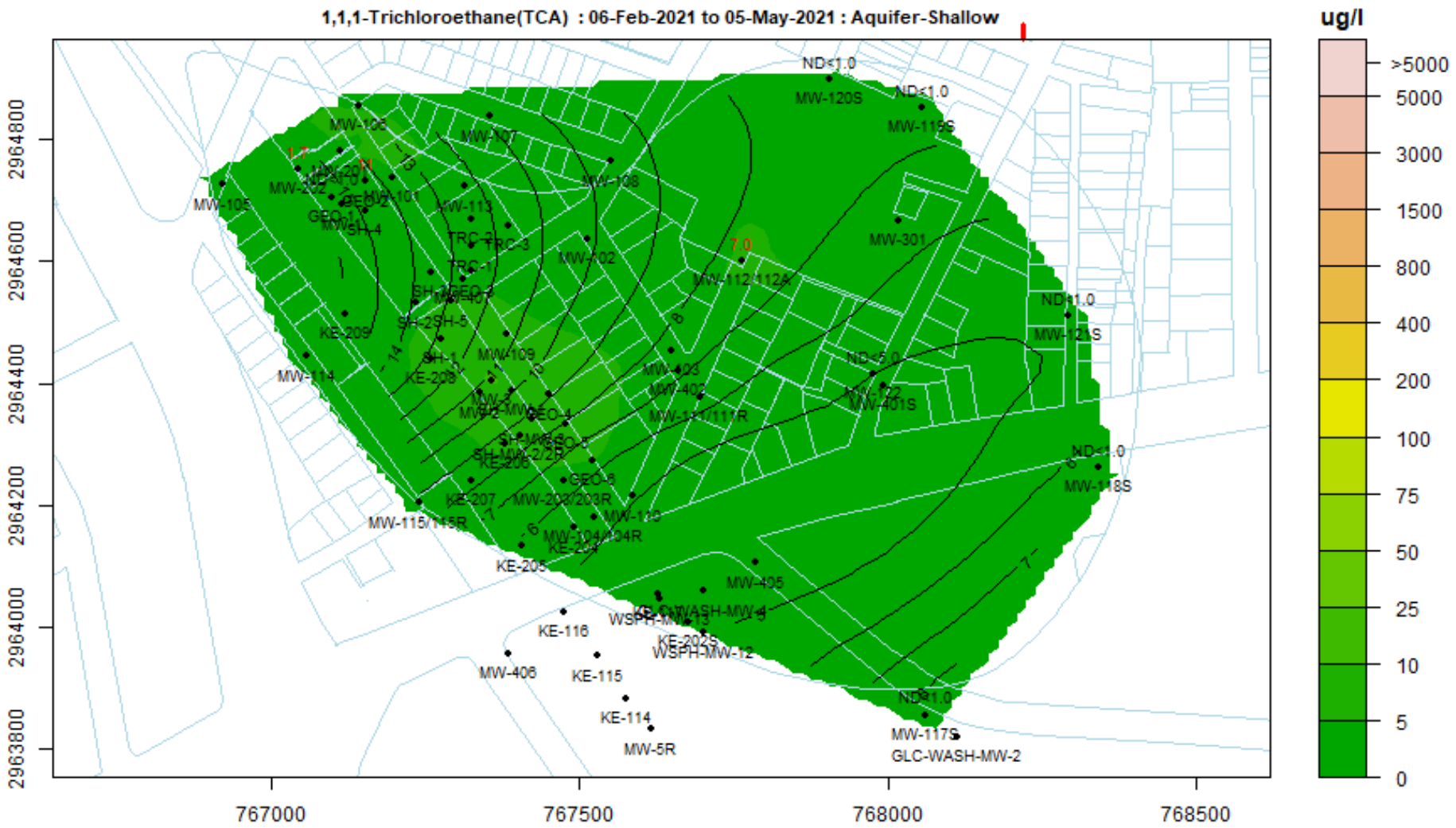
1,1,1-Trichloroethane(TCA) : 06-Feb-2021 to 05-May-2021 : Aquifer-Shallow
ug/l
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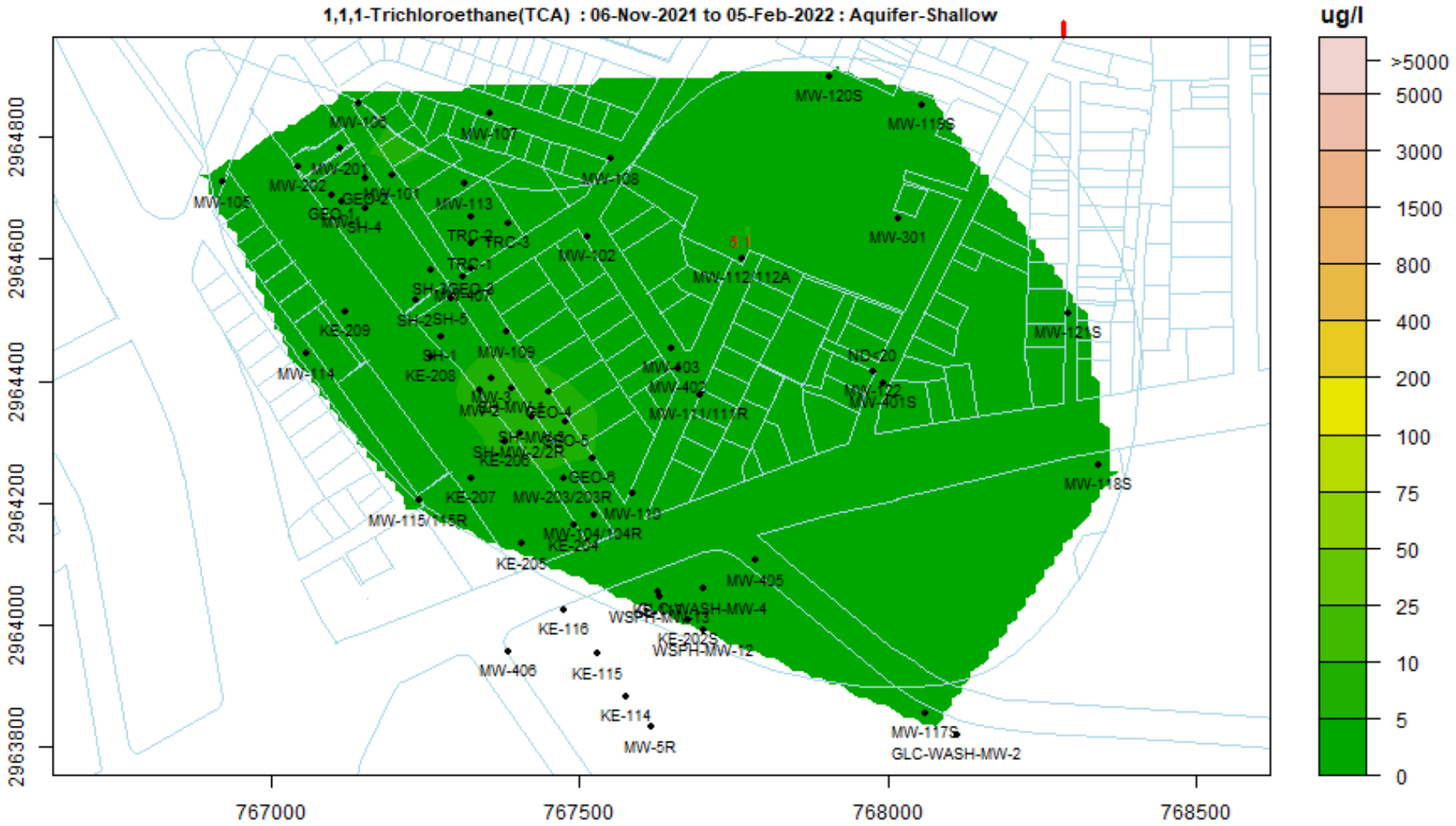
1,1,1-Trichloroethane(TCA) : 06-Nov-2021 to 05-Feb-2022 : Aquifer-Shallow
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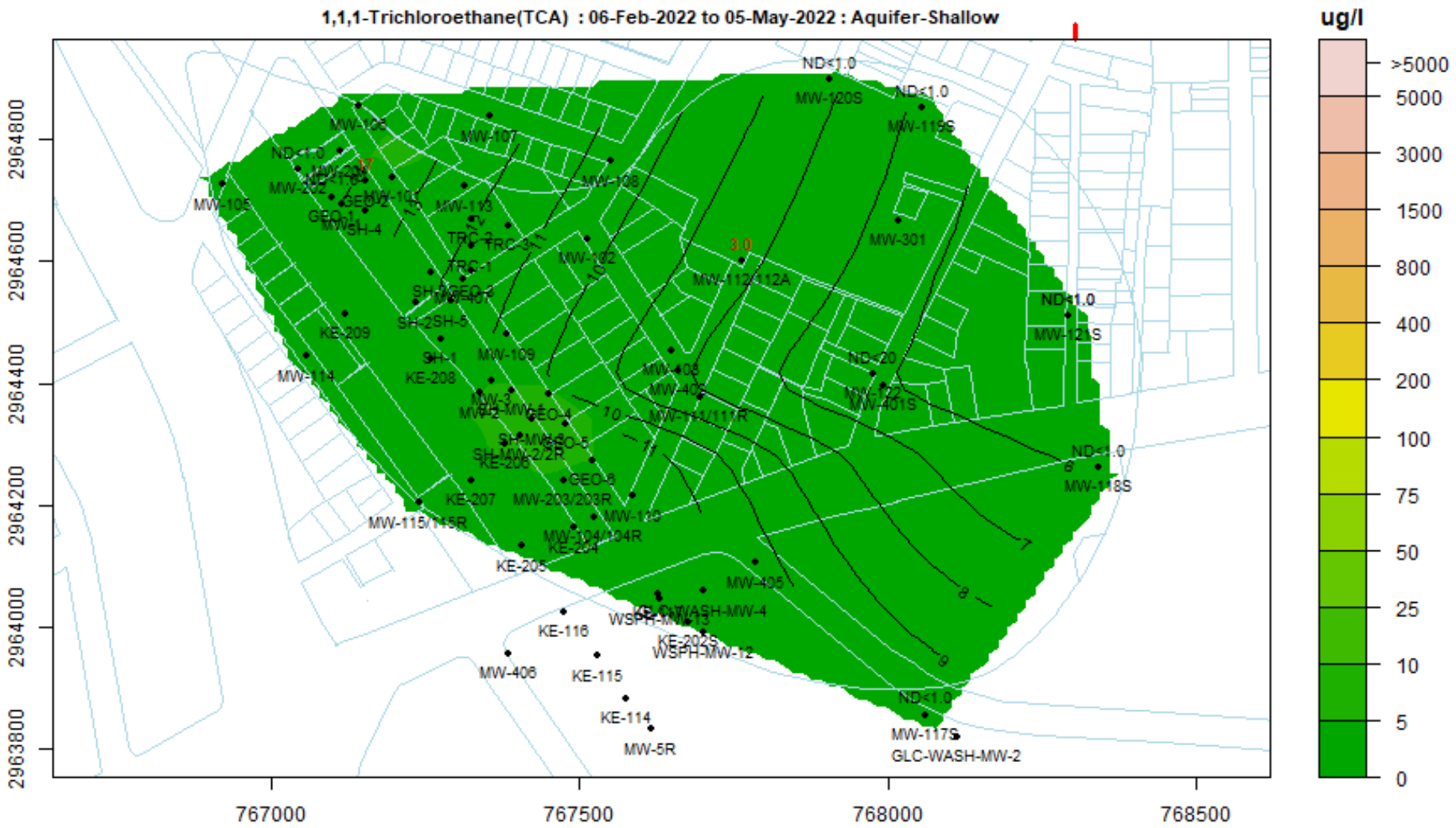
1,1,1-Trichloroethane(TCA) : 06-Feb-2022 to 05-May-2022 : Aquifer-Shallow
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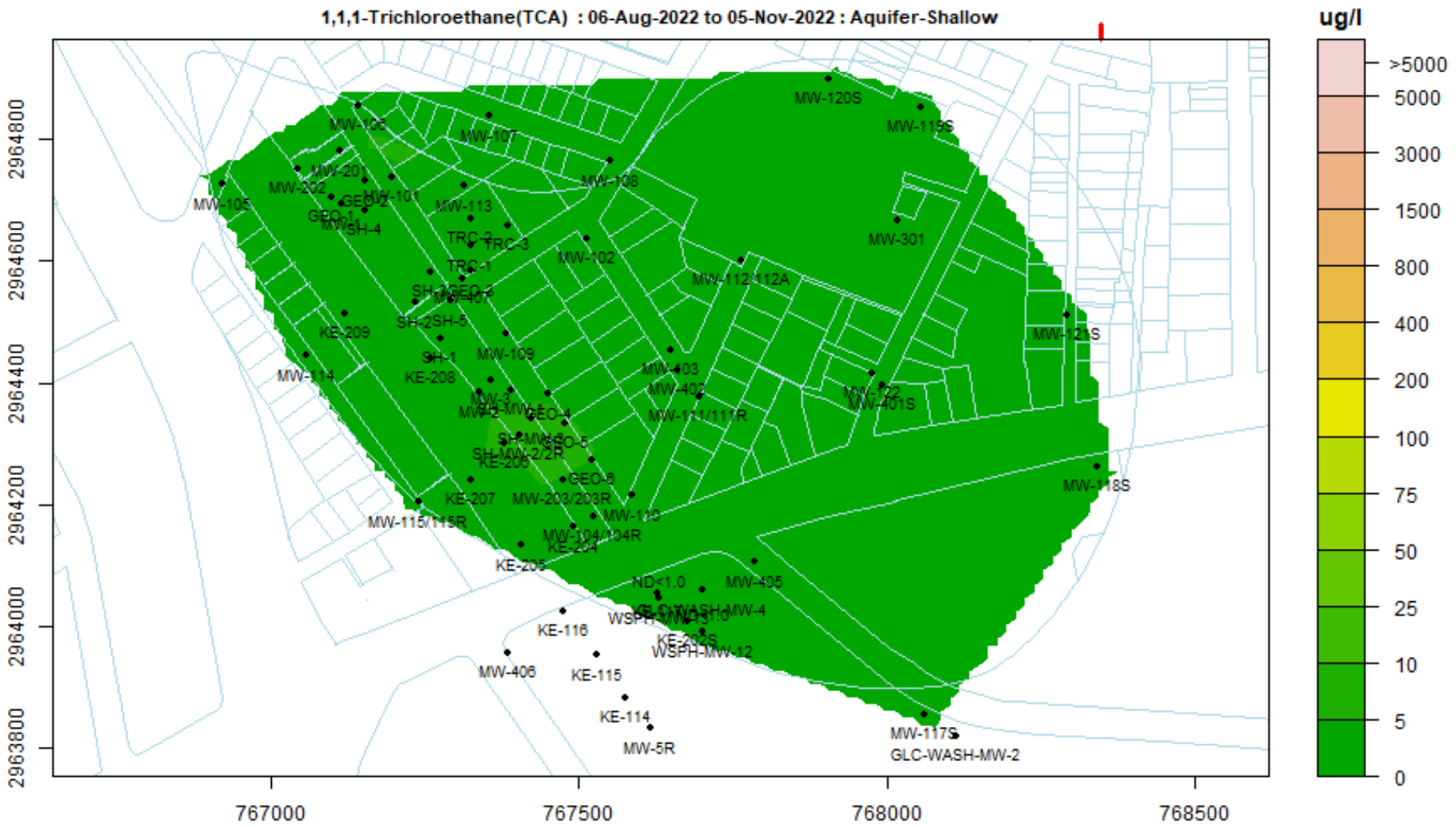
1,1,1-Trichloroethane(TCA) : 06-Aug-2022 to 05-Nov-2022 : Aquifer-Shallow
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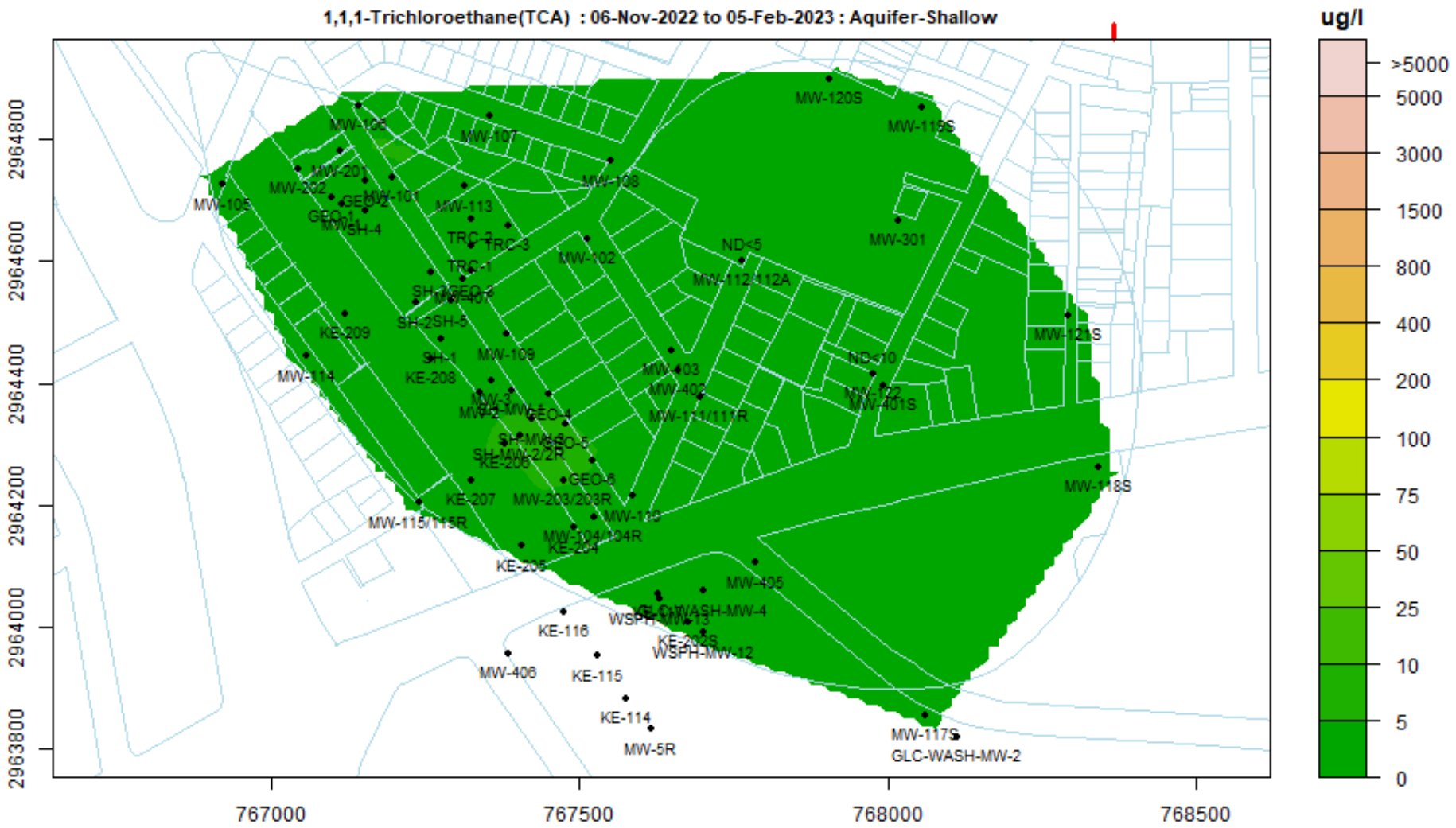
1,1,1-Trichloroethane(TCA) : 06-Nov-2022 to 05-Feb-2023 : Aquifer-Shallow
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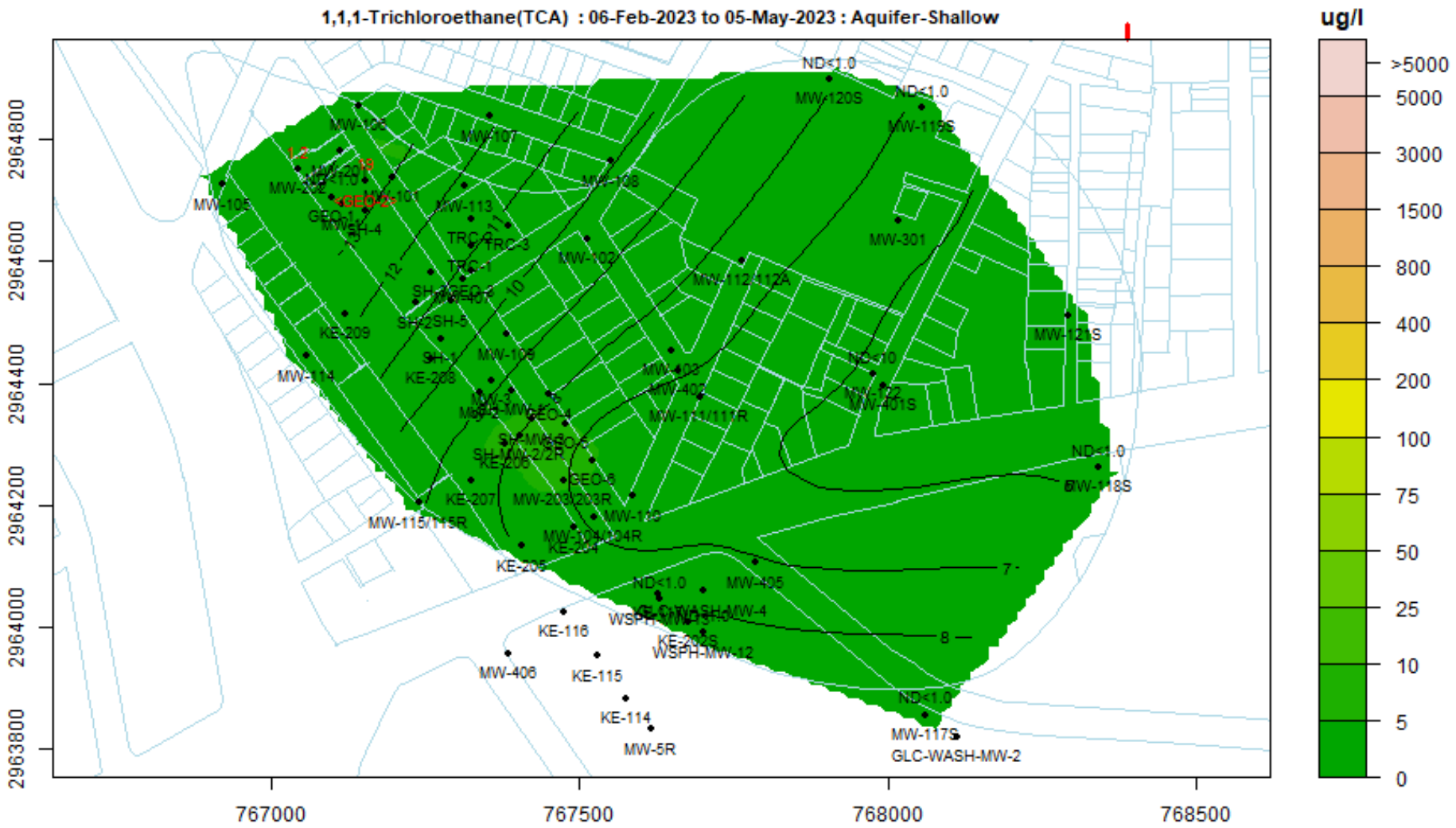
1,1,1-Trichloroethane(TCA) : 06-Feb-2023 to 05-May-2023 : Aquifer-Shallow
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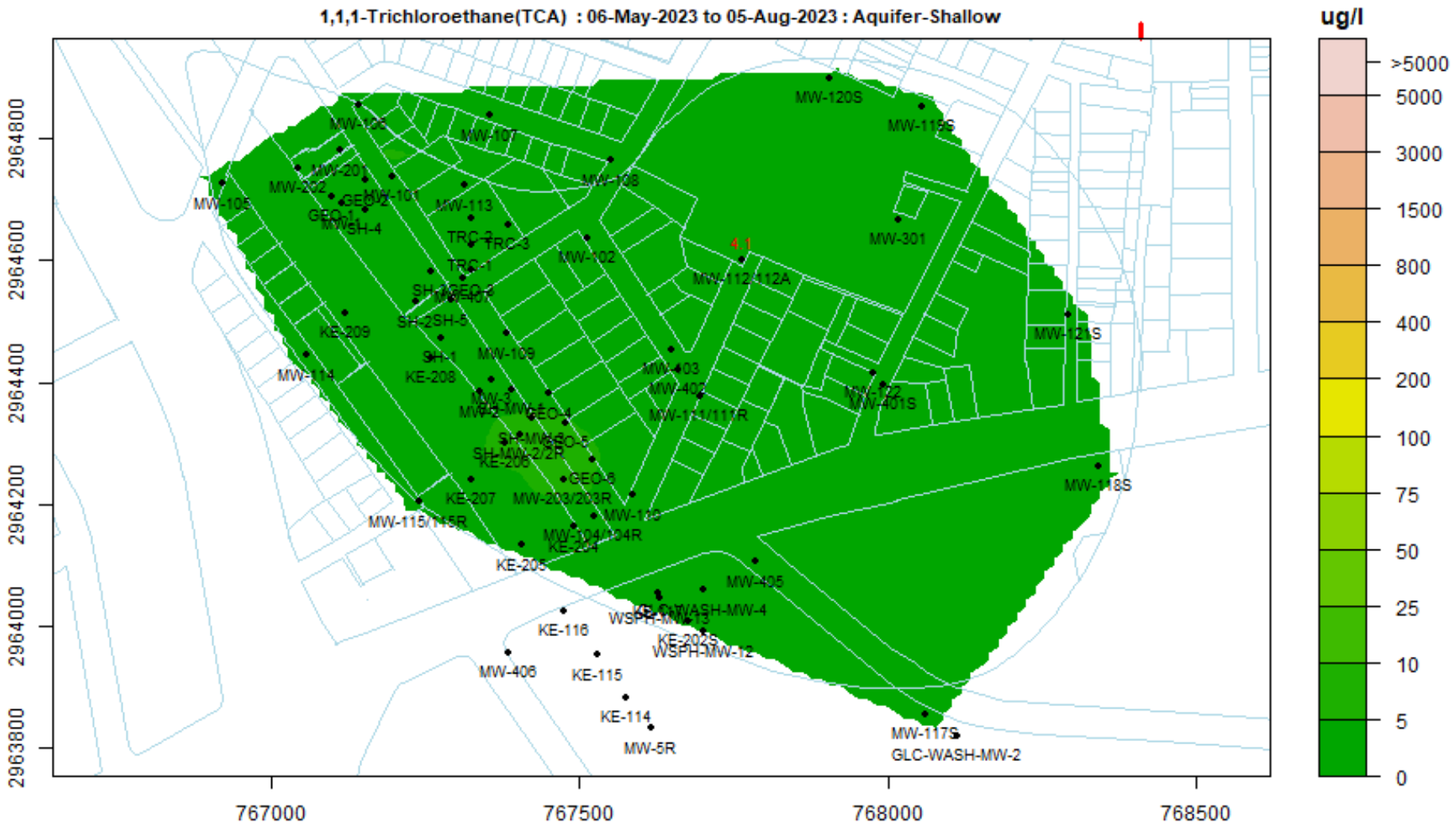
1,1,1-Trichloroethane(TCA) : 06-May-2023 to 05-Aug-2023 : Aquifer-Shallow
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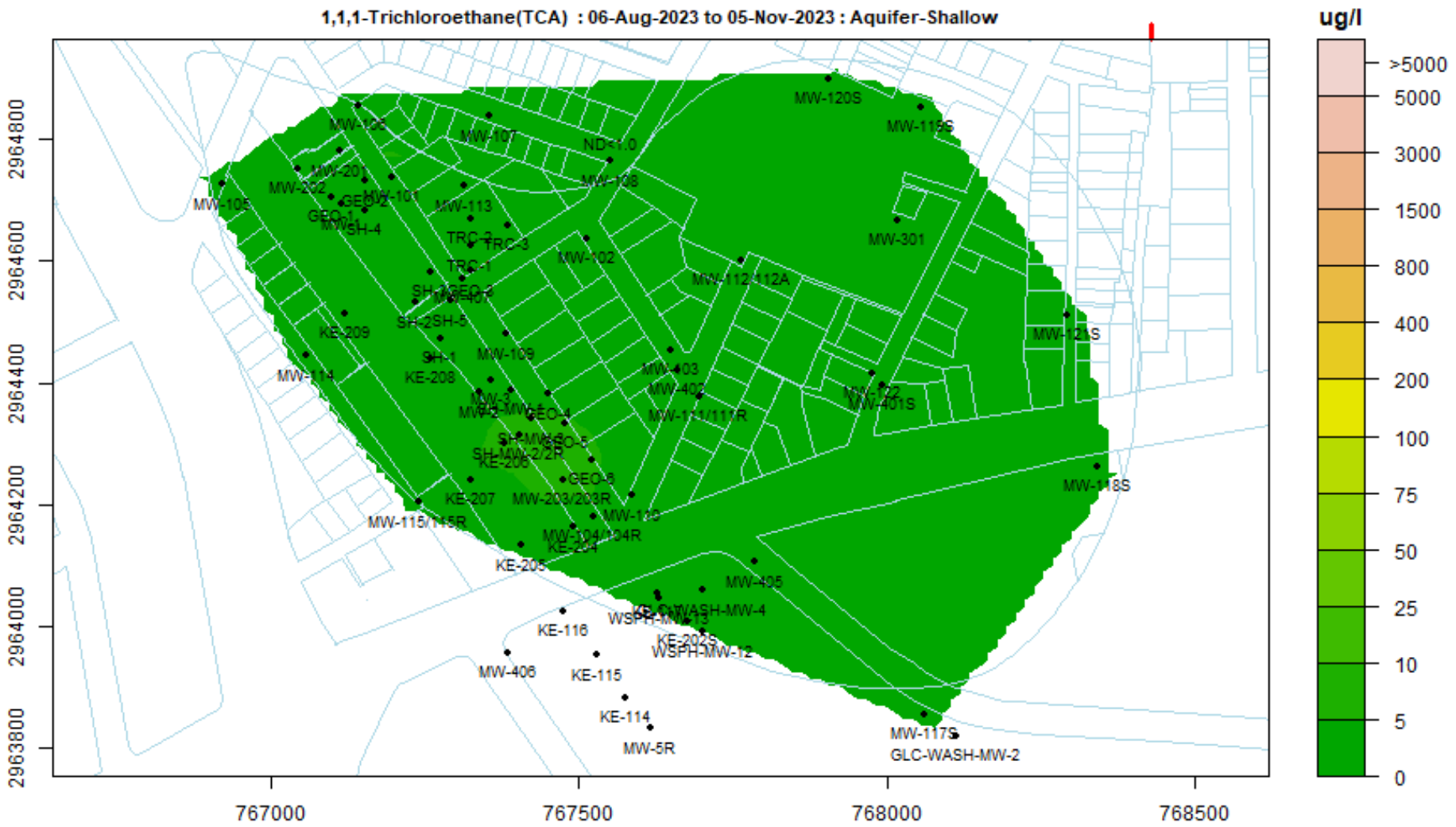
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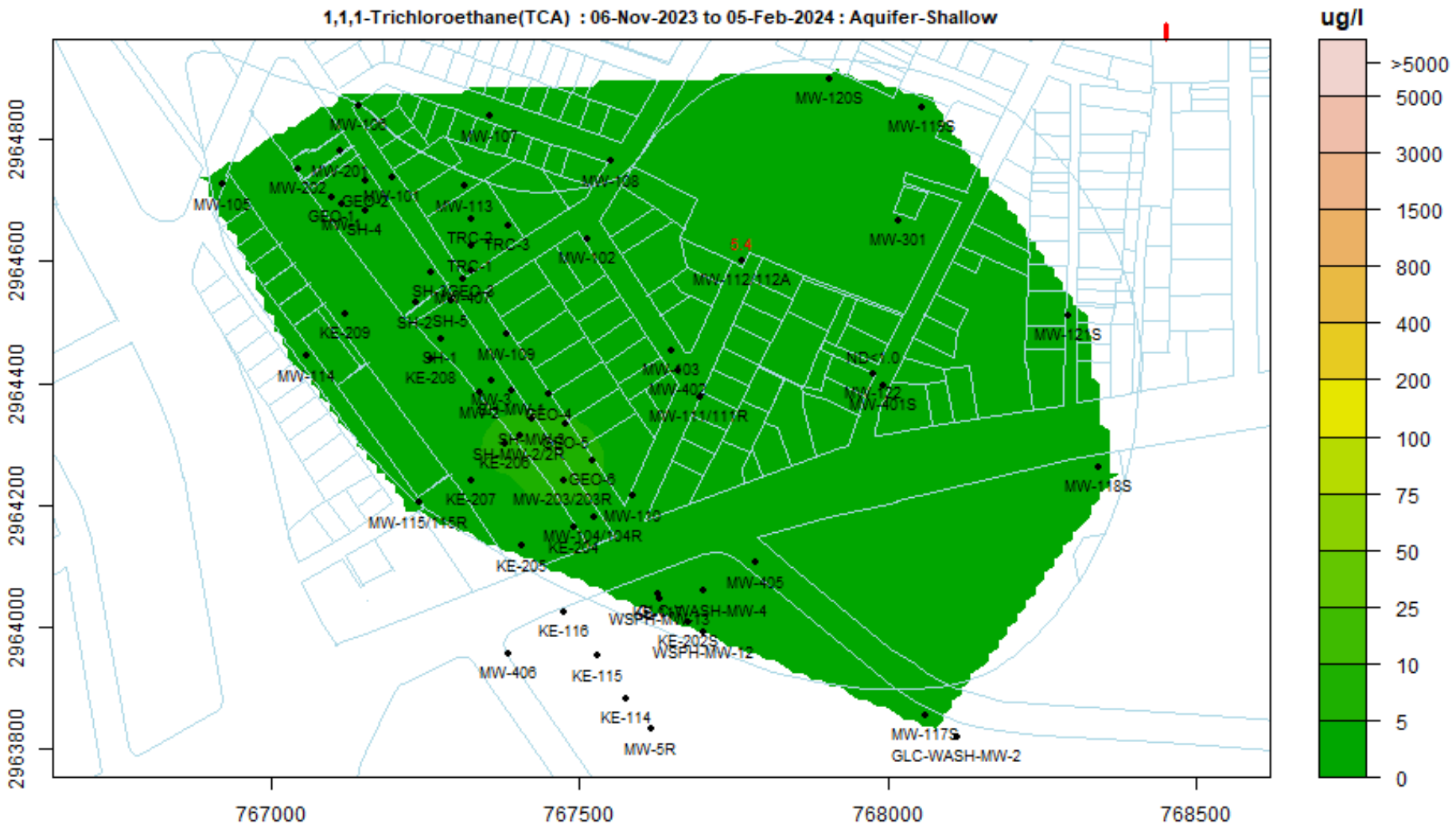
1,1,1-Trichloroethane(TCA) : 06-Nov-2023 to 05-Feb-2024 : Aquifer-Shallow
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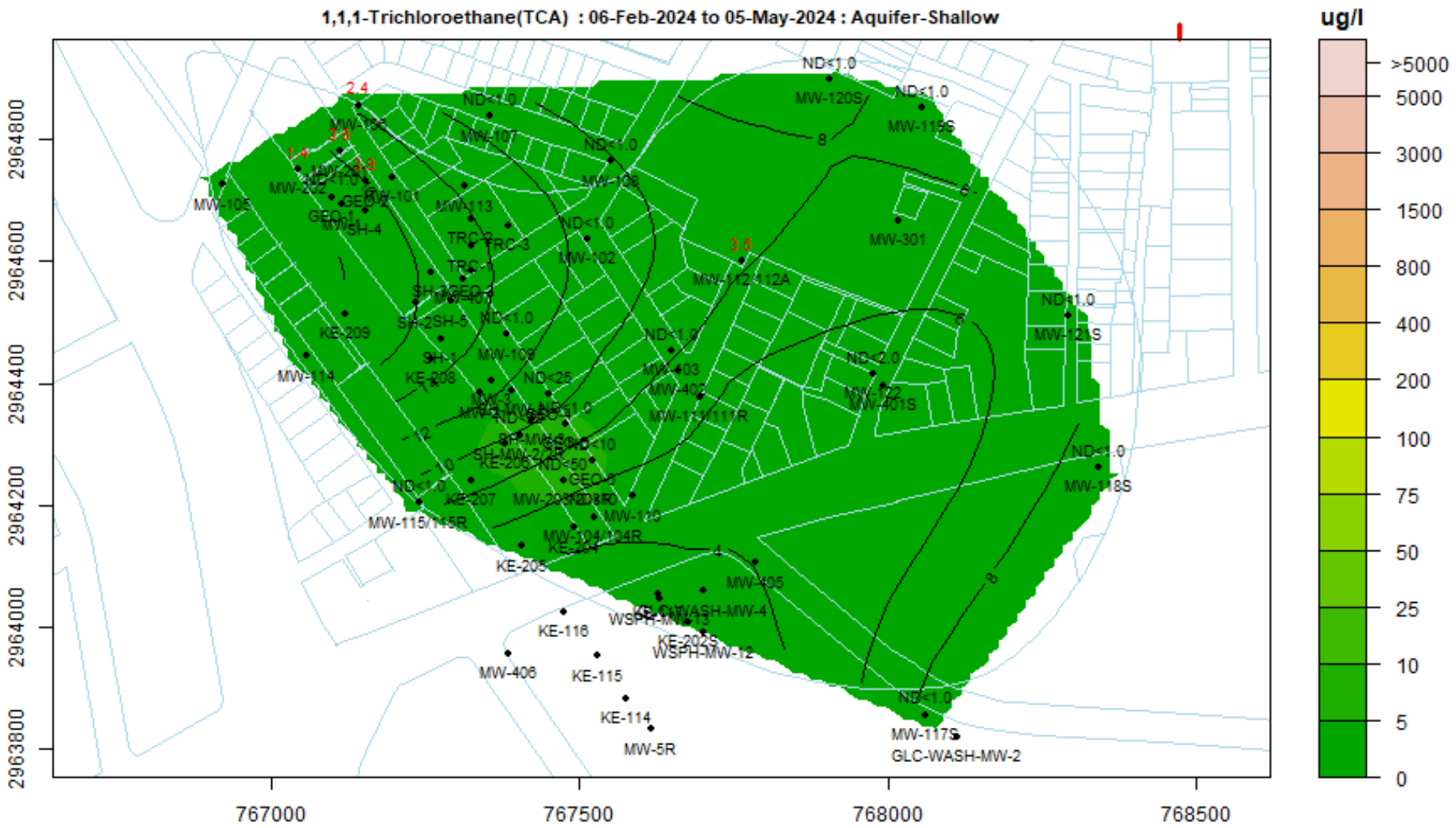
1,1,1-Trichloroethane(TCA) : 06-Feb-2024 to 05-May-2024 : Aquifer-Shallow
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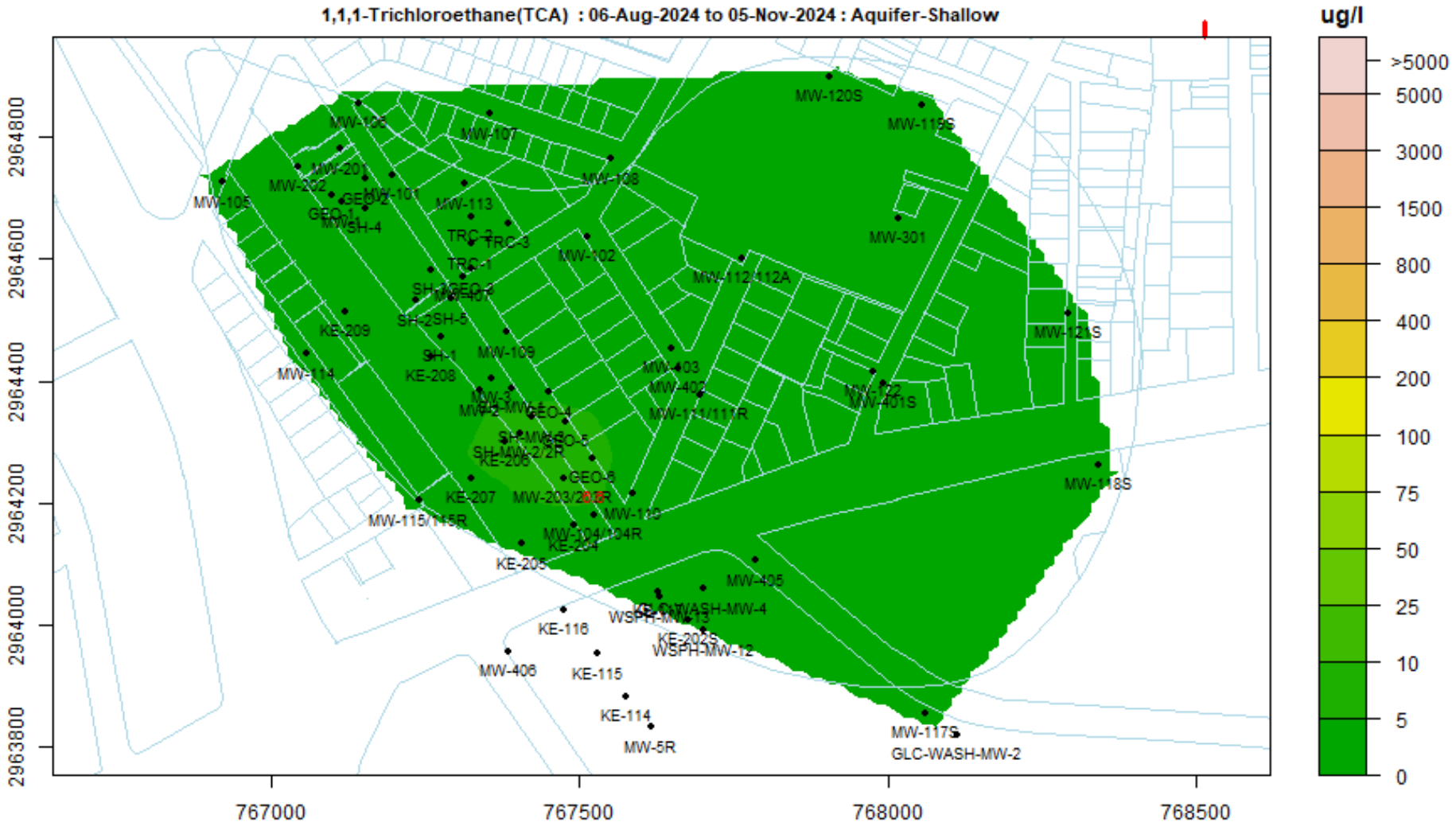
1,1,1-Trichloroethane(TCA) : 06-Aug-2024 to 05-Nov-2024 : Aquifer-Shallow
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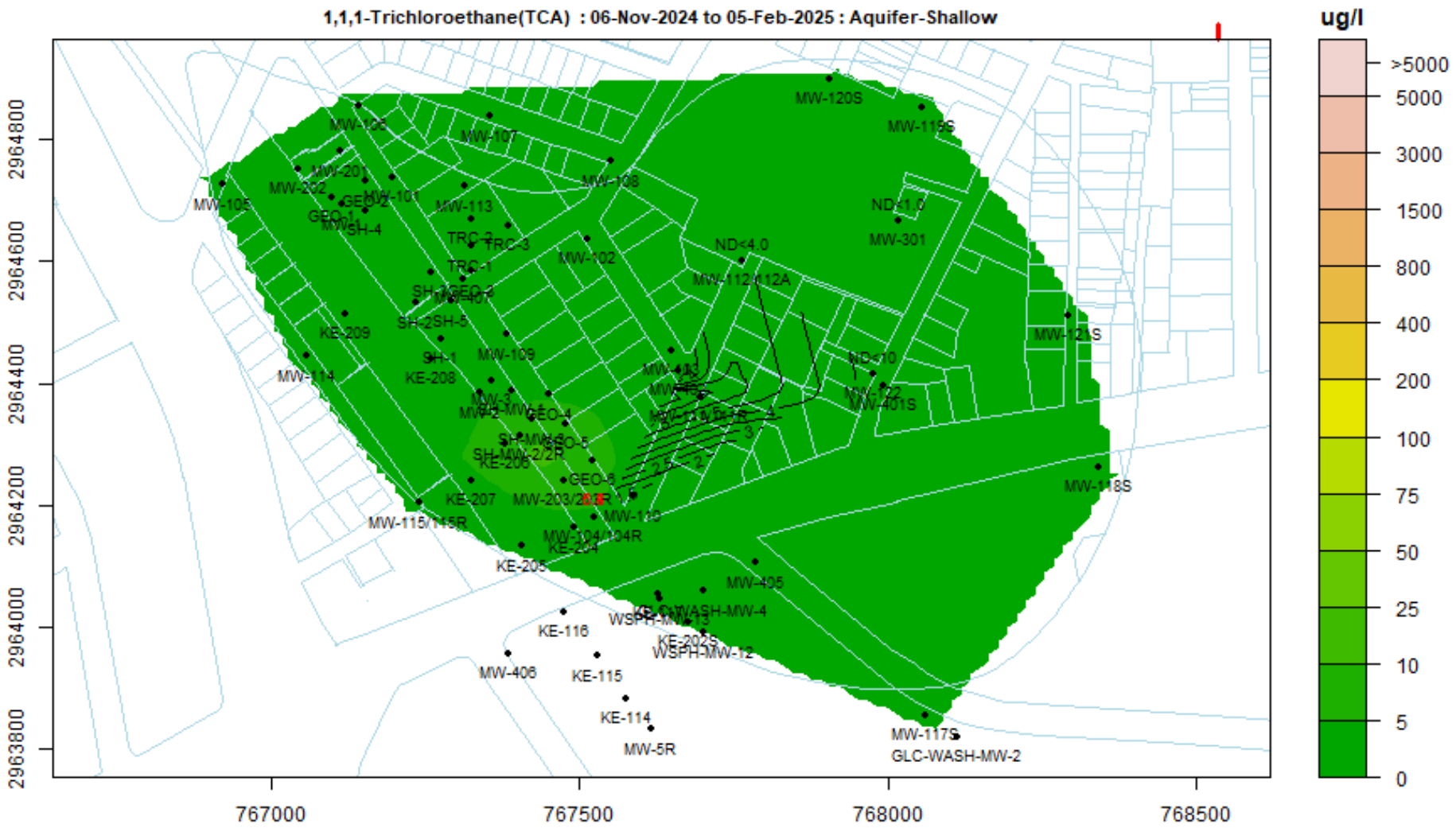
1,1,1-Trichloroethane(TCA) : 06-Nov-2024 to 05-Feb-2025 : Aquifer-Shallow
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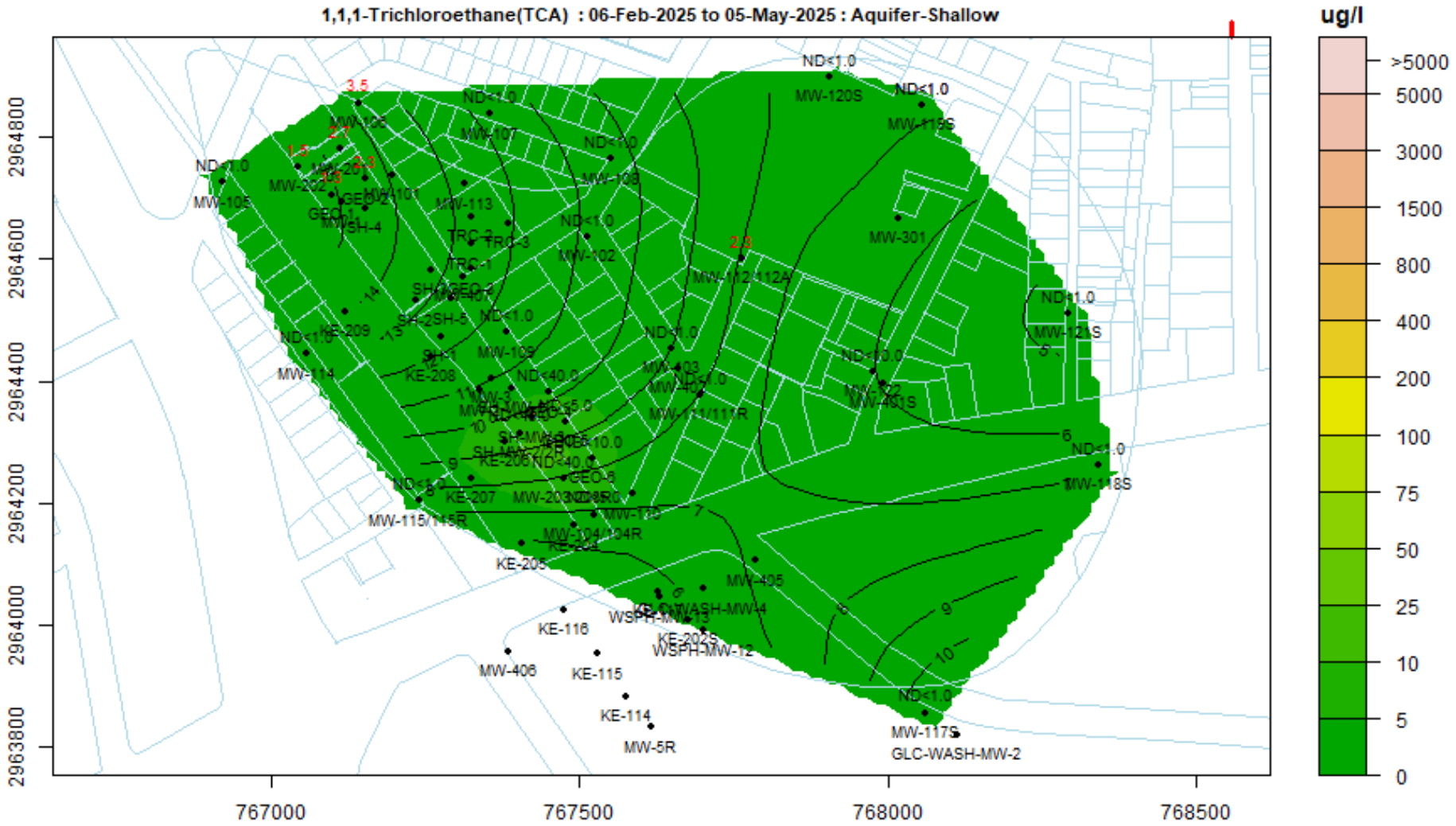
1,1,1-Trichloroethane(TCA) : 06-Feb-2025 to 05-May-2025 : Aquifer-Shallow
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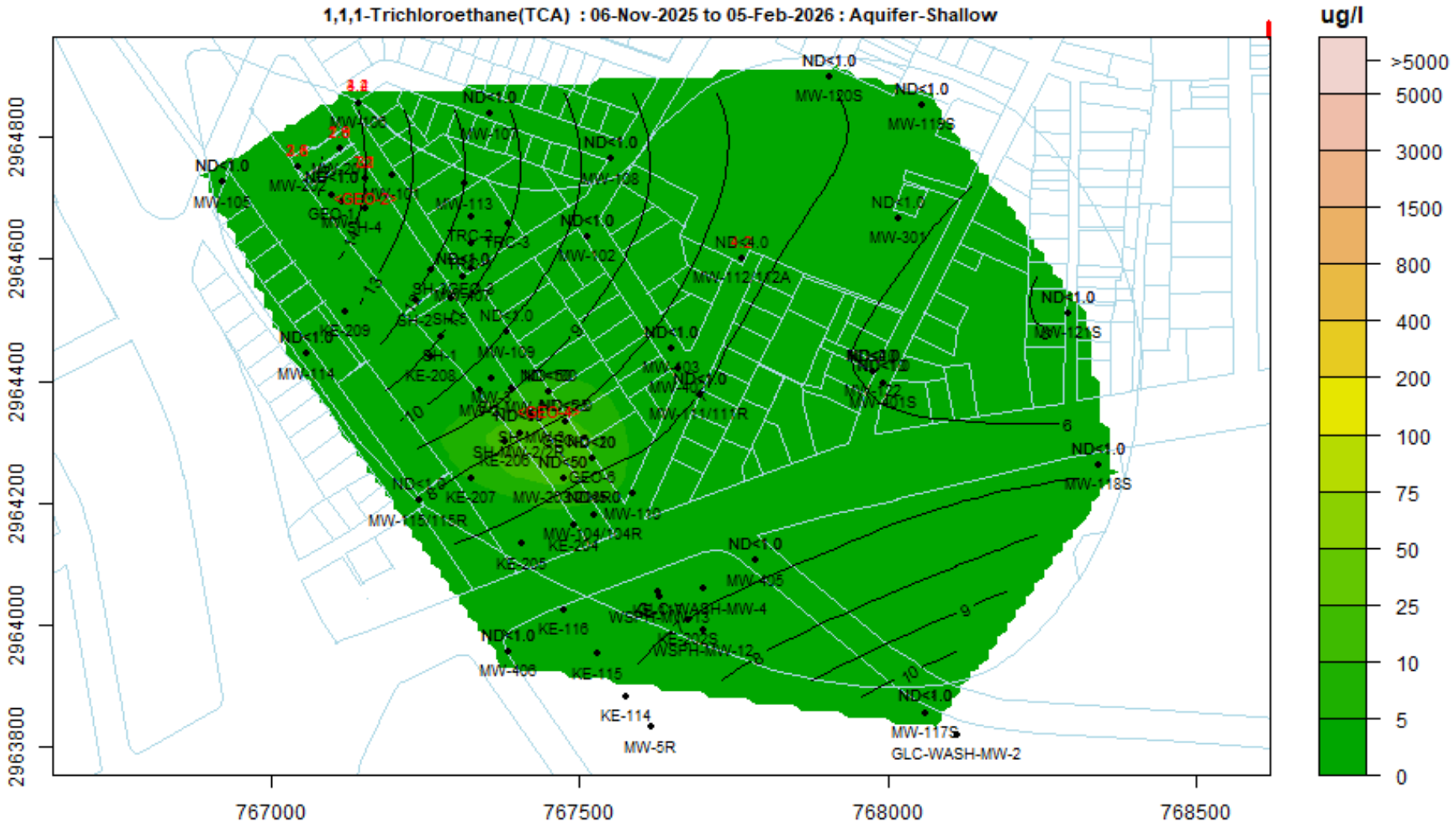
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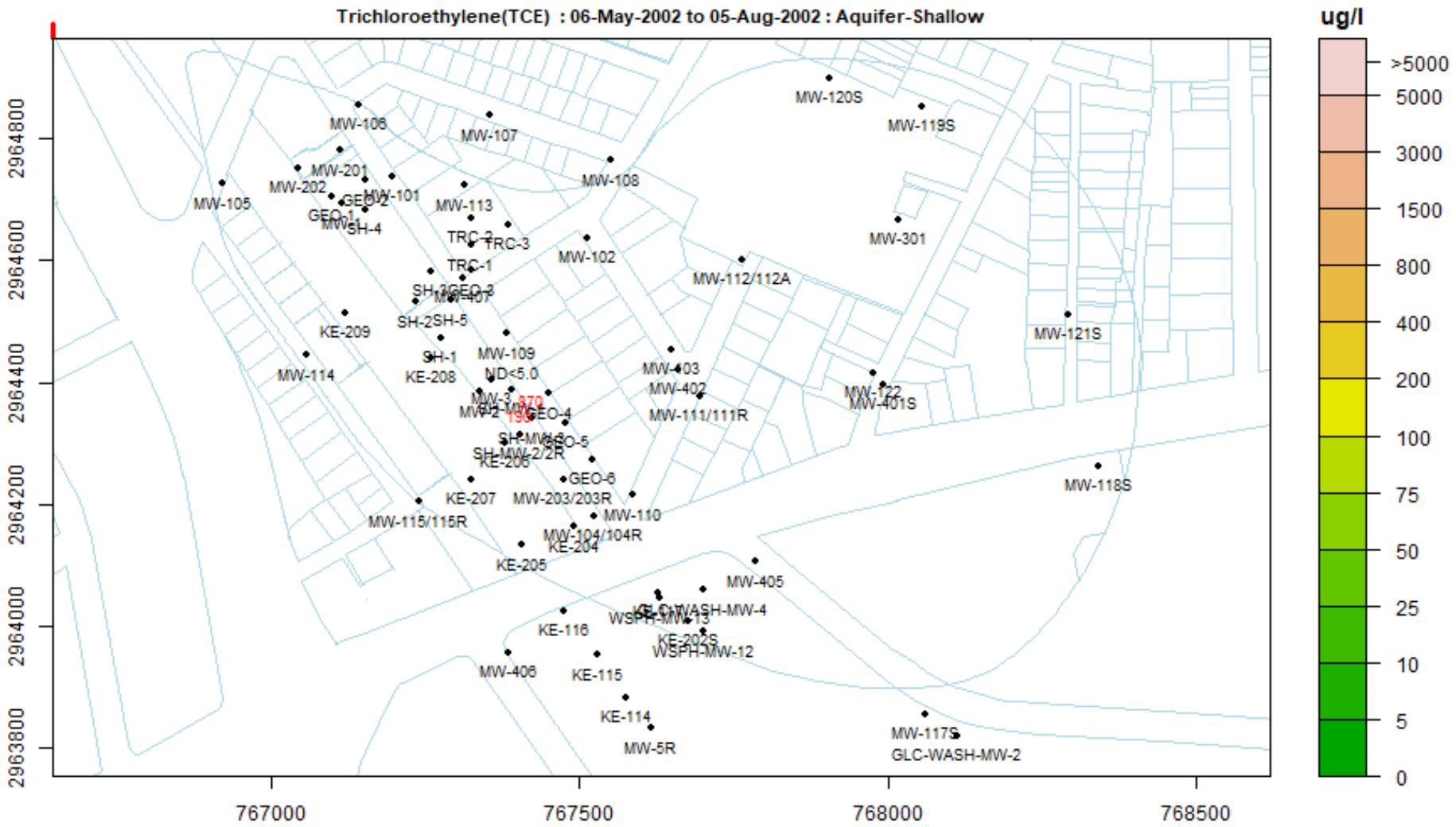
Trichloroethylene(TCE) : 06-May-2002 to 05-Aug-2002 : Aquifer-Shallow
ug/l
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TRC-3
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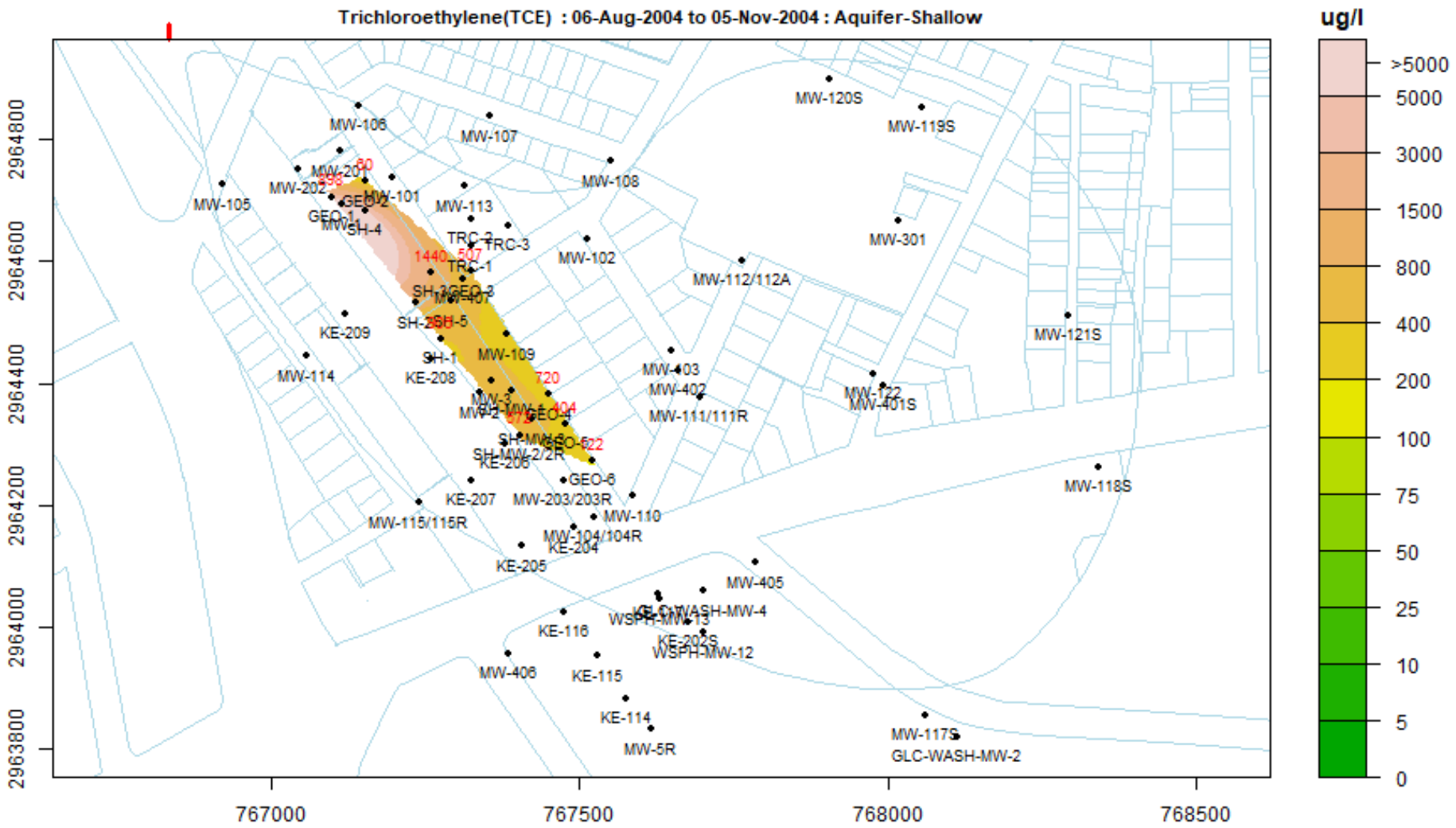
Trichloroethylene(TCE) : 06-Aug-2004 to 05-Nov-2004 : Aquifer-Shallow
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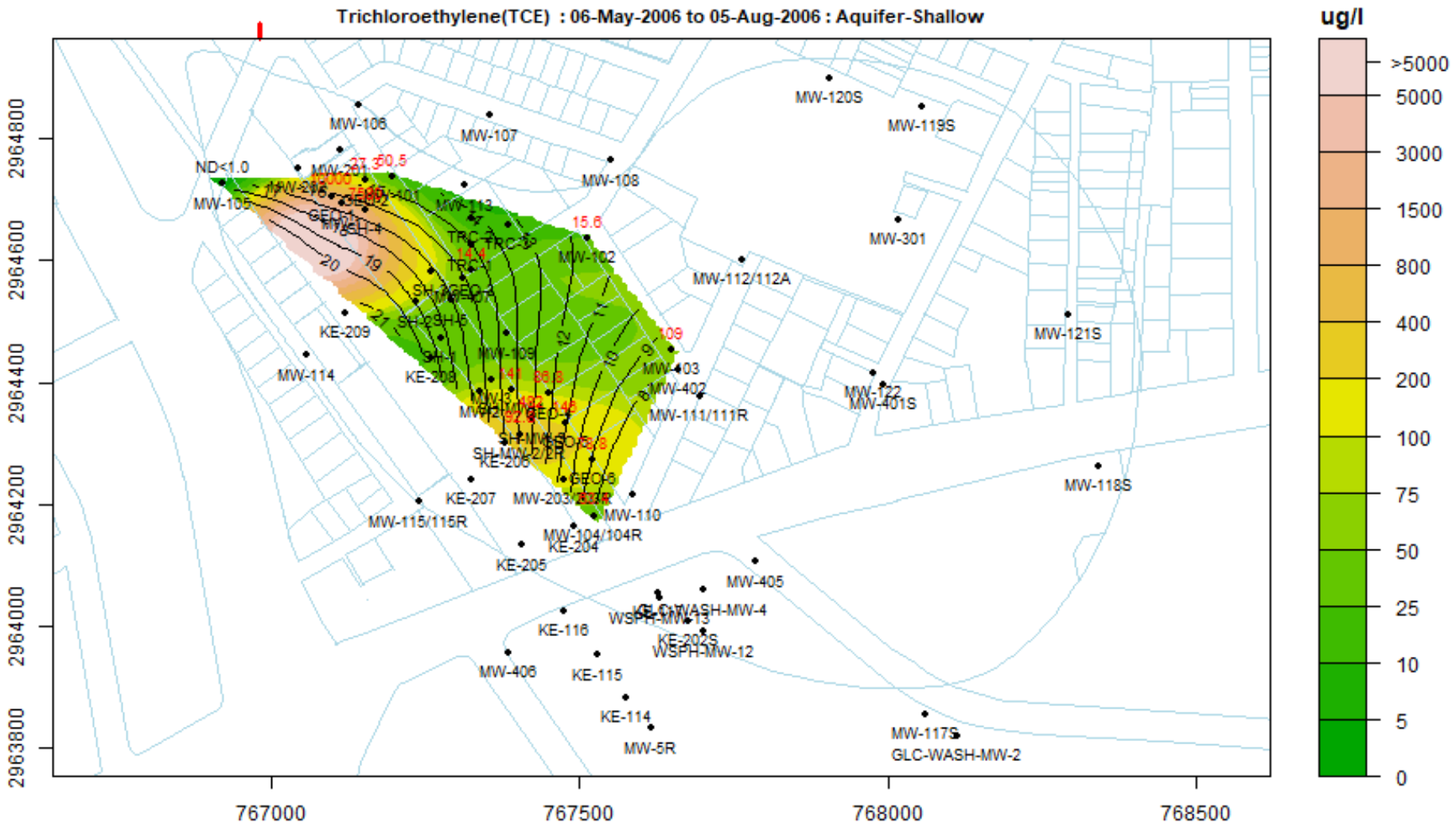
Trichloroethylene(TCE) : 06-May-2006 to 05-Aug-2006 : Aquifer-Shallow
ug/l
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400
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MW-117S
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GLC-WASH-MW-4
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SH-6
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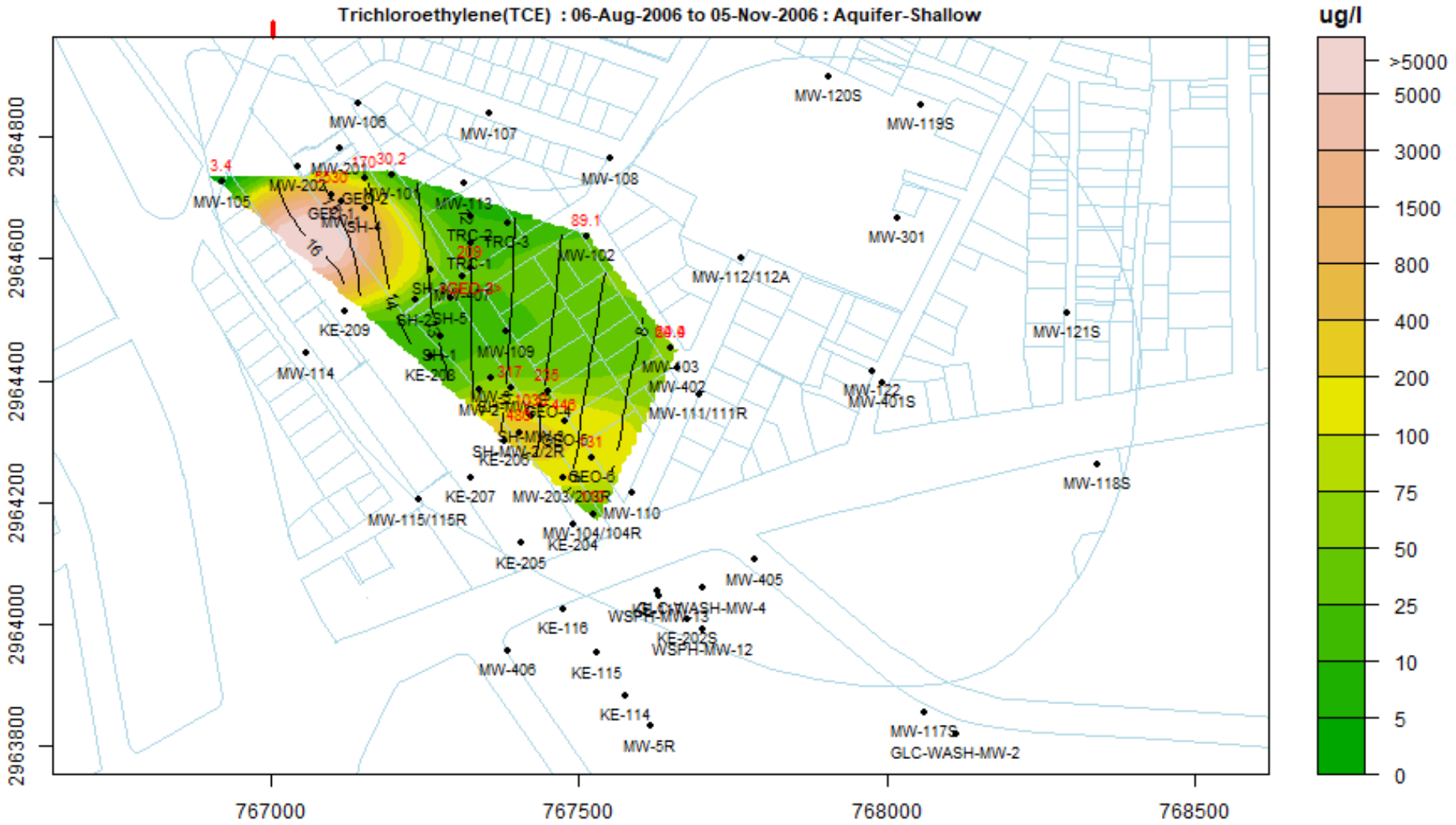
Trichloroethylene(TCE) : 06-Aug-2006 to 05-Nov-2006 : Aquifer-Shallow
ug/l
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1500
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400
200
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75
50
25
10
5
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MW-101
MW-113
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GEO-2
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MW-111/111R
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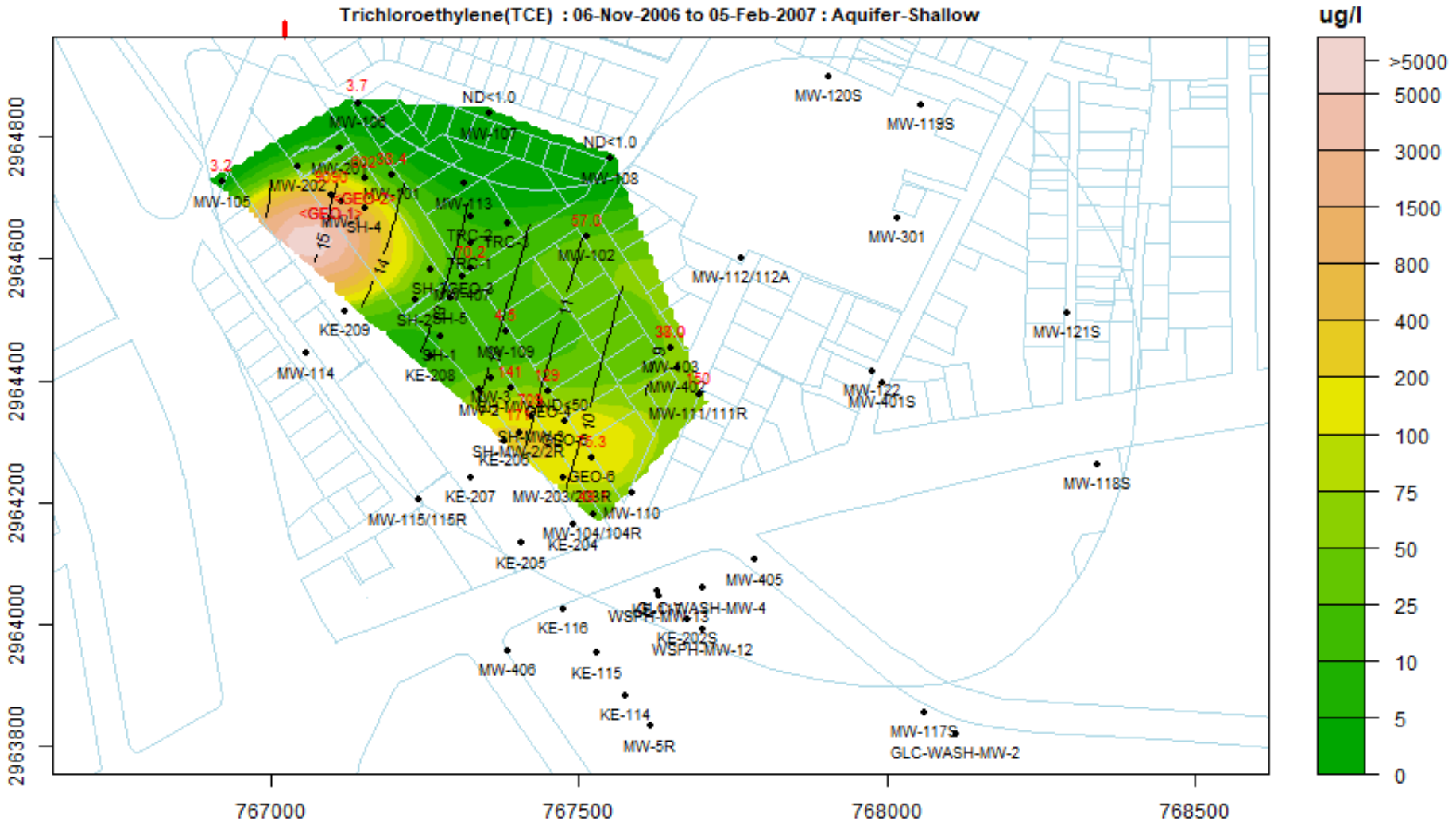
Trichloroethylene(TCE) : 06-Nov-2006 to 05-Feb-2007 : Aquifer-Shallow
ug/l
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1500
800
400
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100
75
50
25
10
5
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767000
767500
768000
768500
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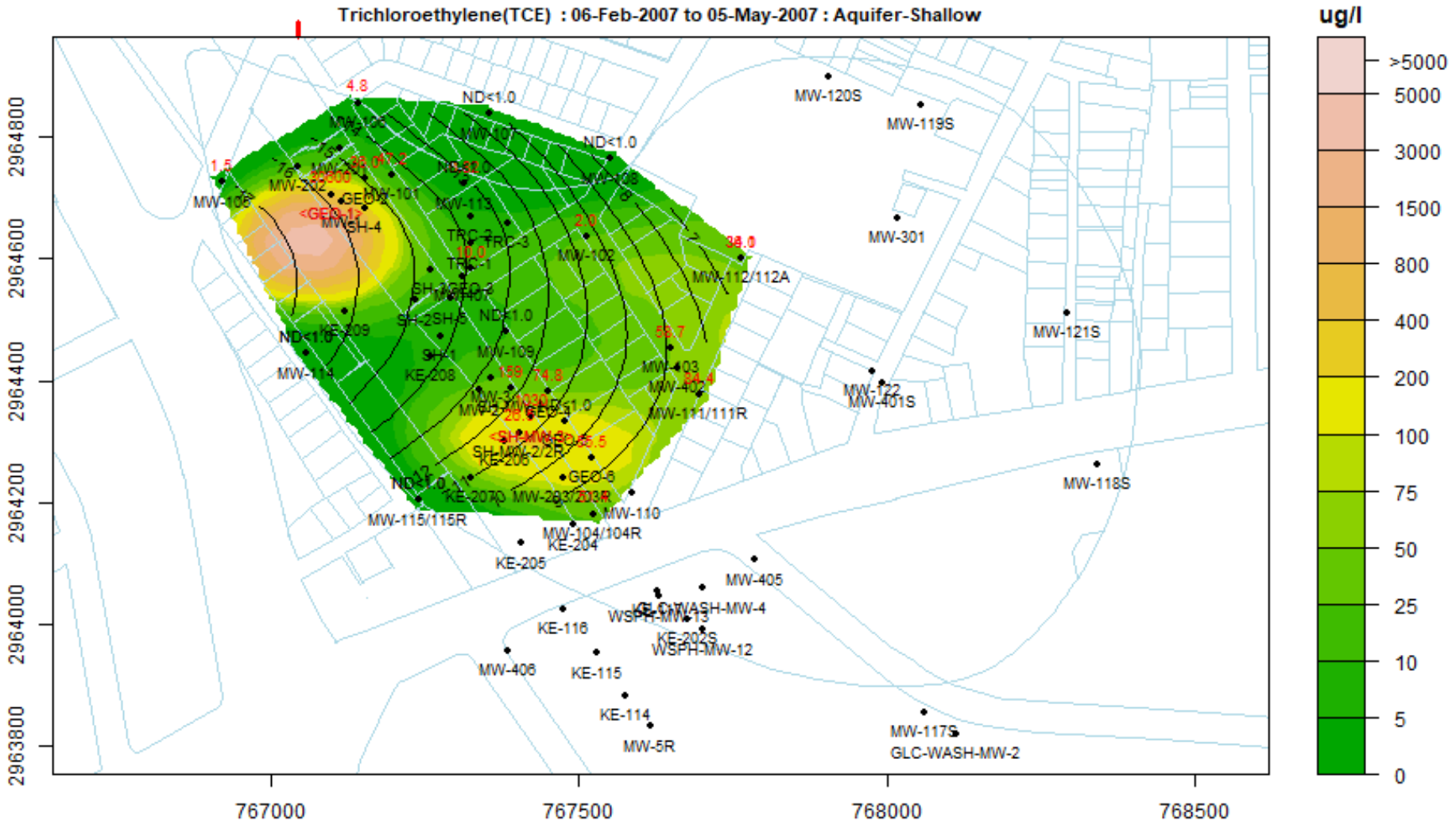
Trichloroethylene(TCE) : 06-Feb-2007 to 05-May-2007 : Aquifer-Shallow
ug/l
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100
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MW-406
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GEO-6
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TRC-2
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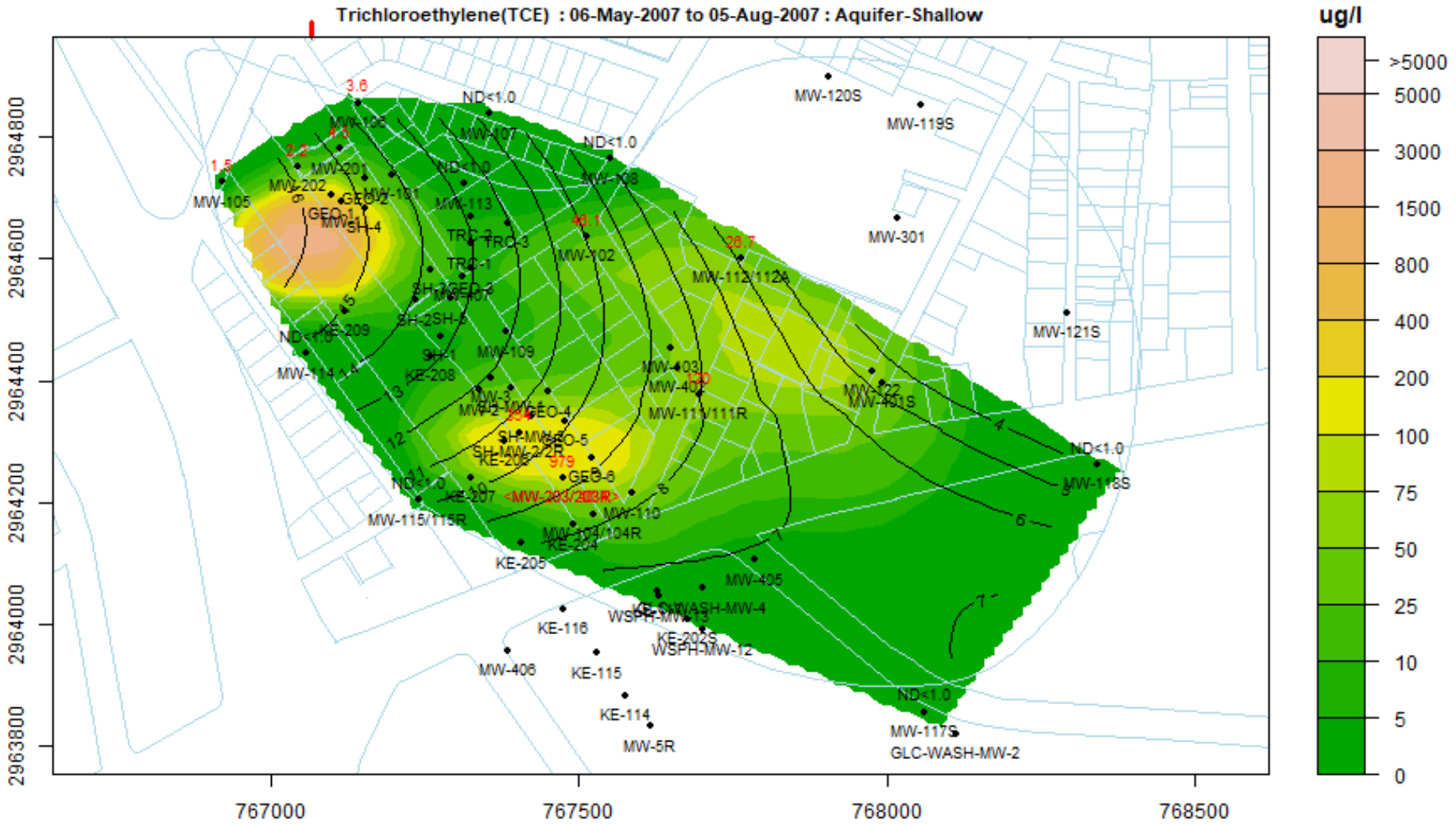
Trichloroethylene(TCE) : 06-May-2007 to 05-Aug-2007 : Aquifer-Shallow
ug/l
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100
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50
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10
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0
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2964600
2964400
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767000
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MW-301
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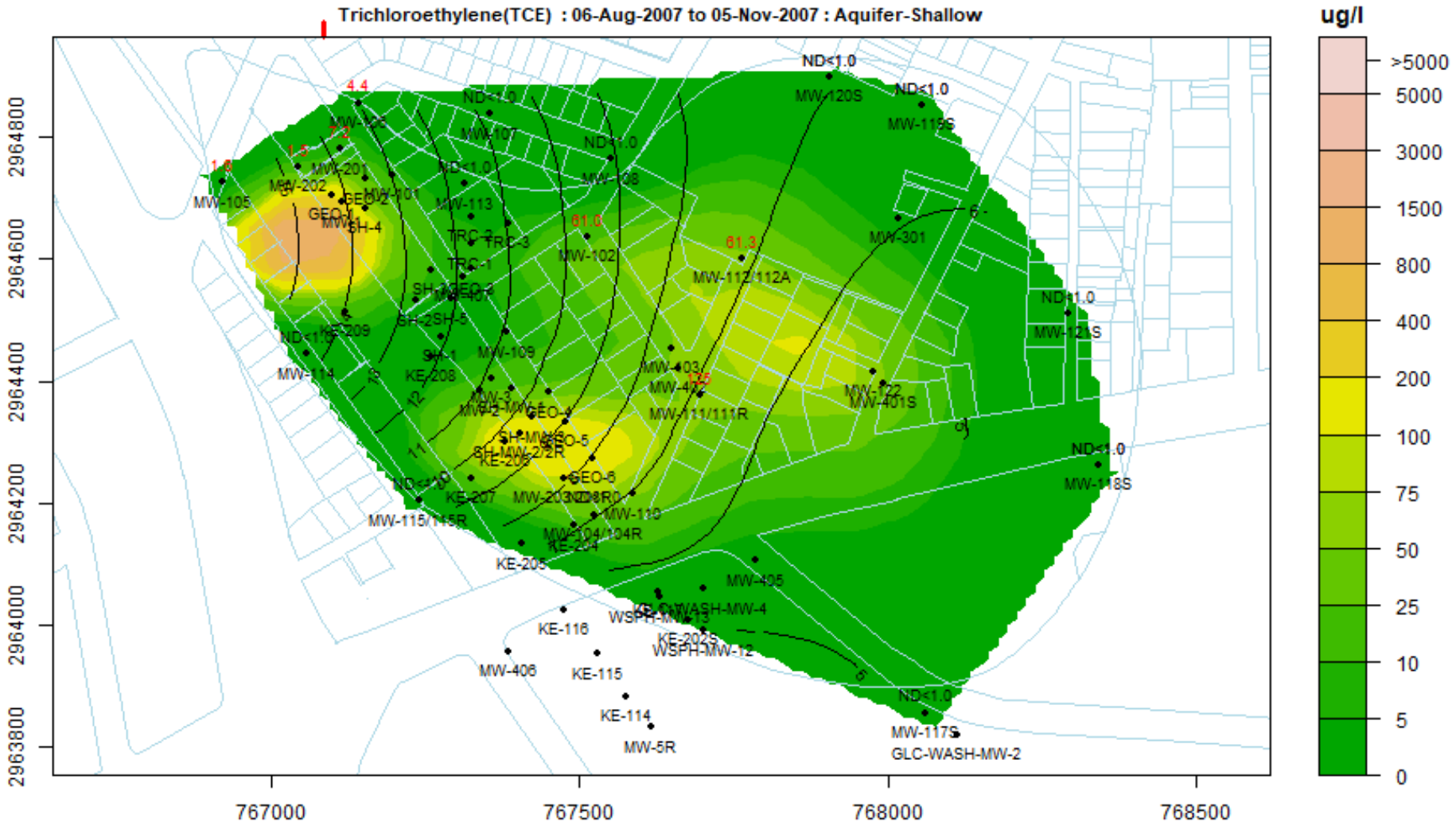
Trichloroethylene(TCE) : 06-Aug-2007 to 05-Nov-2007 : Aquifer-Shallow
ug/l
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1500
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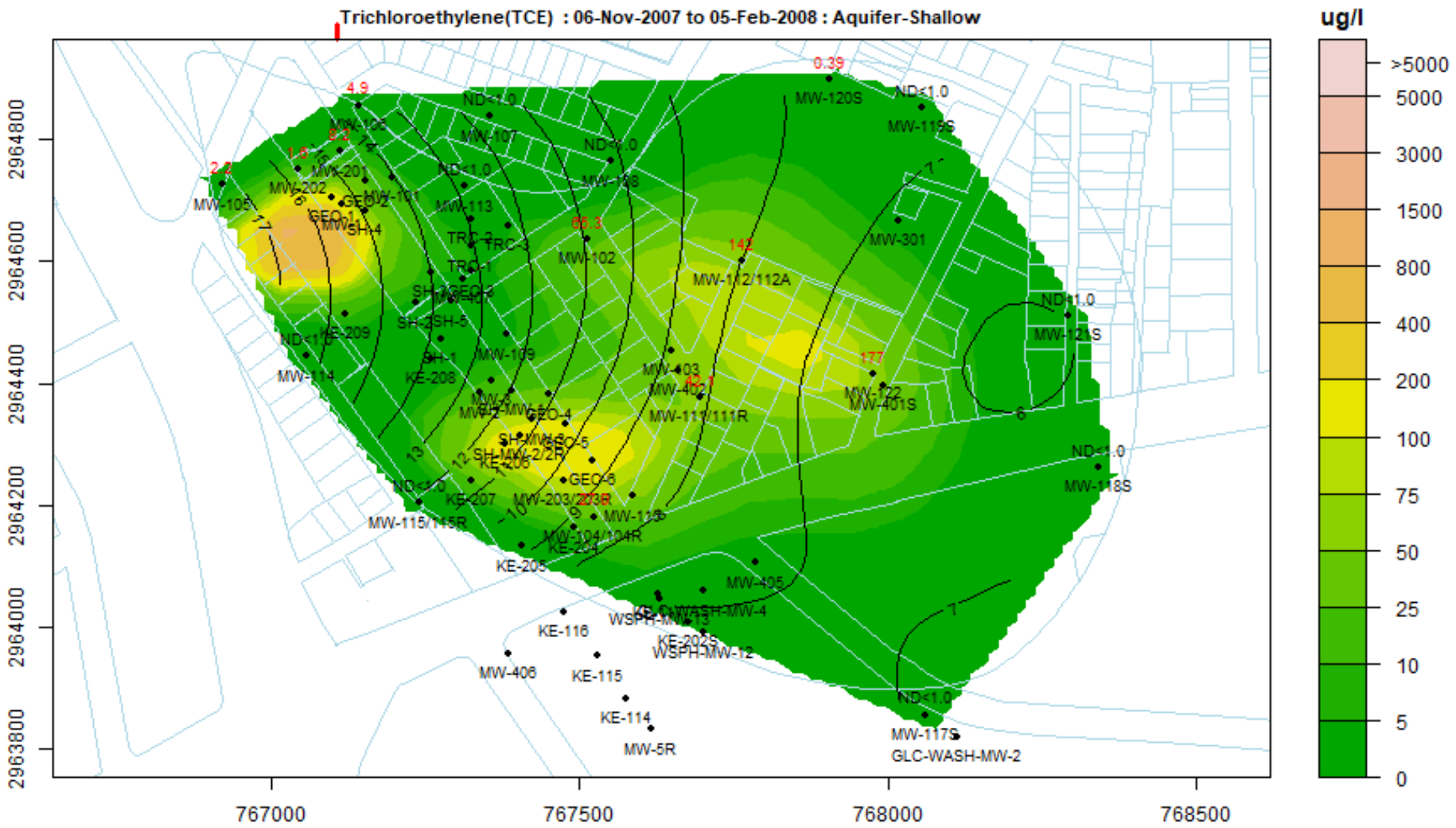
Trichloroethylene(TCE) : 06-Nov-2007 to 05-Feb-2008 : Aquifer-Shallow
ug/l
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MW-405
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MW-117S
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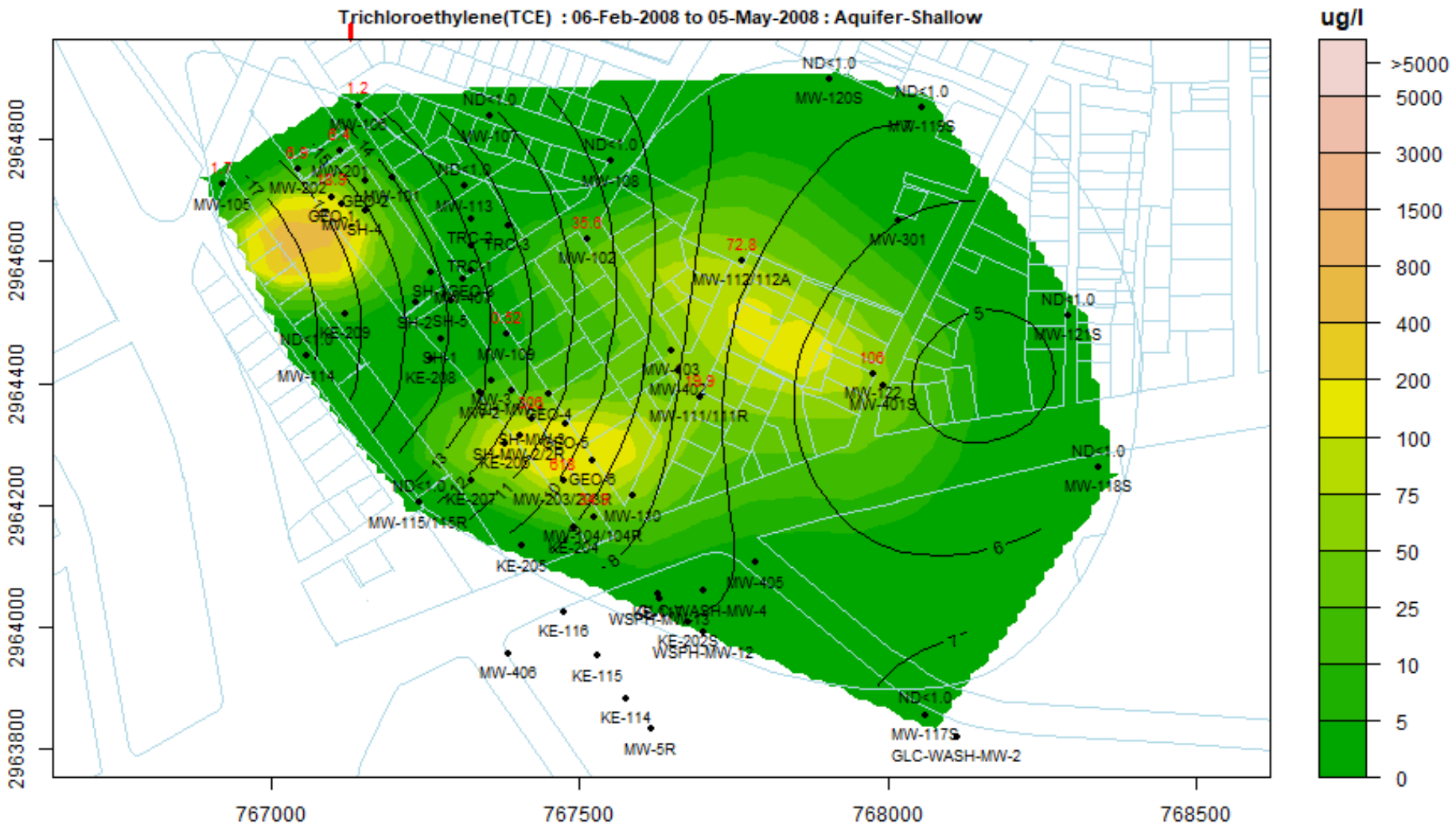
Trichloroethylene(TCE) : 06-Feb-2008 to 05-May-2008 : Aquifer-Shallow
ug/l
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MW-115/115R
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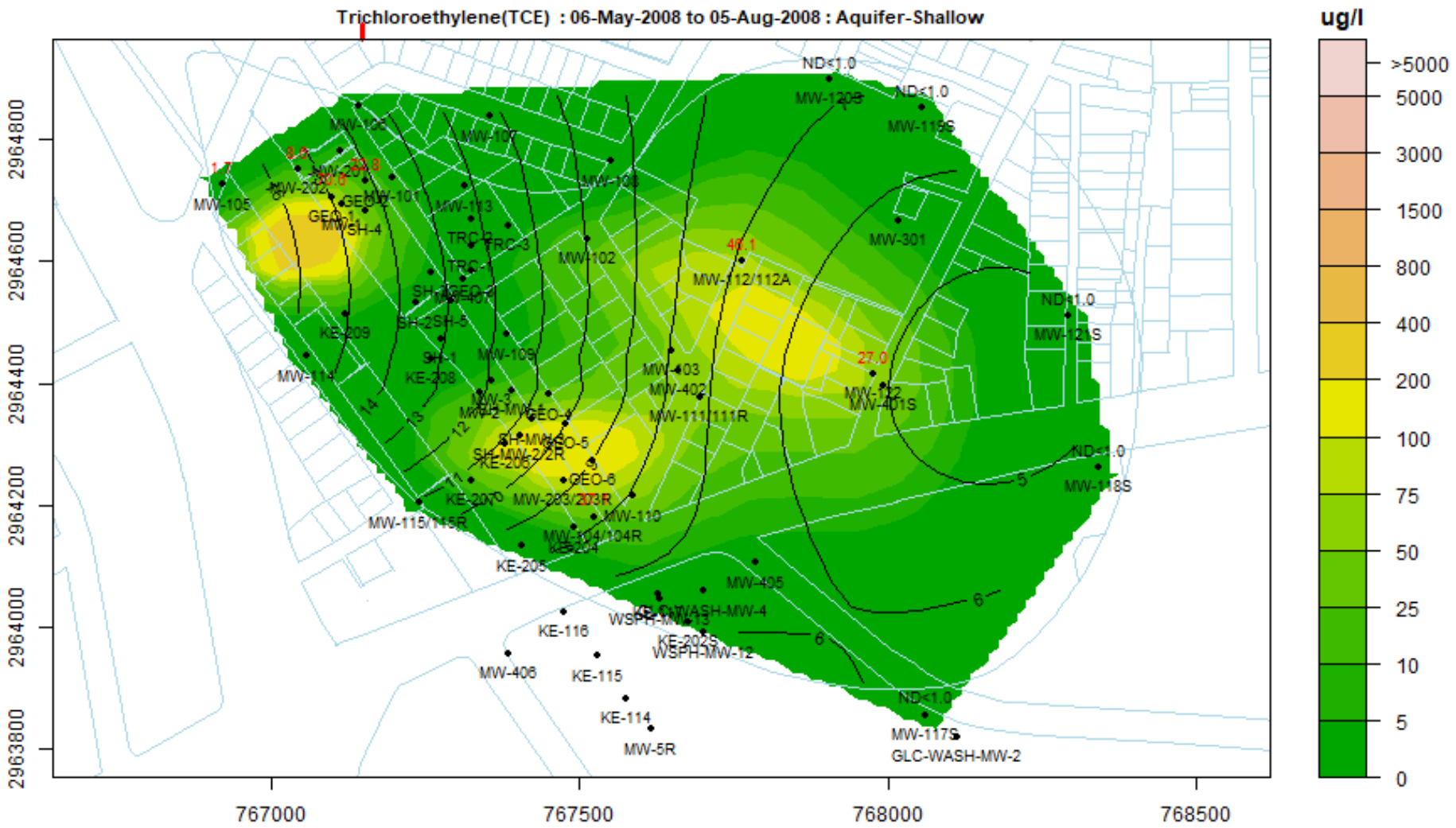
Trichloroethylene(TCE) : 06-May-2008 to 05-Aug-2008 : Aquifer-Shallow
ug/l
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TRC-3
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SH-2SH-5
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SH-MW-GEO-5
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KE-202S
WSPH-MW-12
KE-116
MW-406
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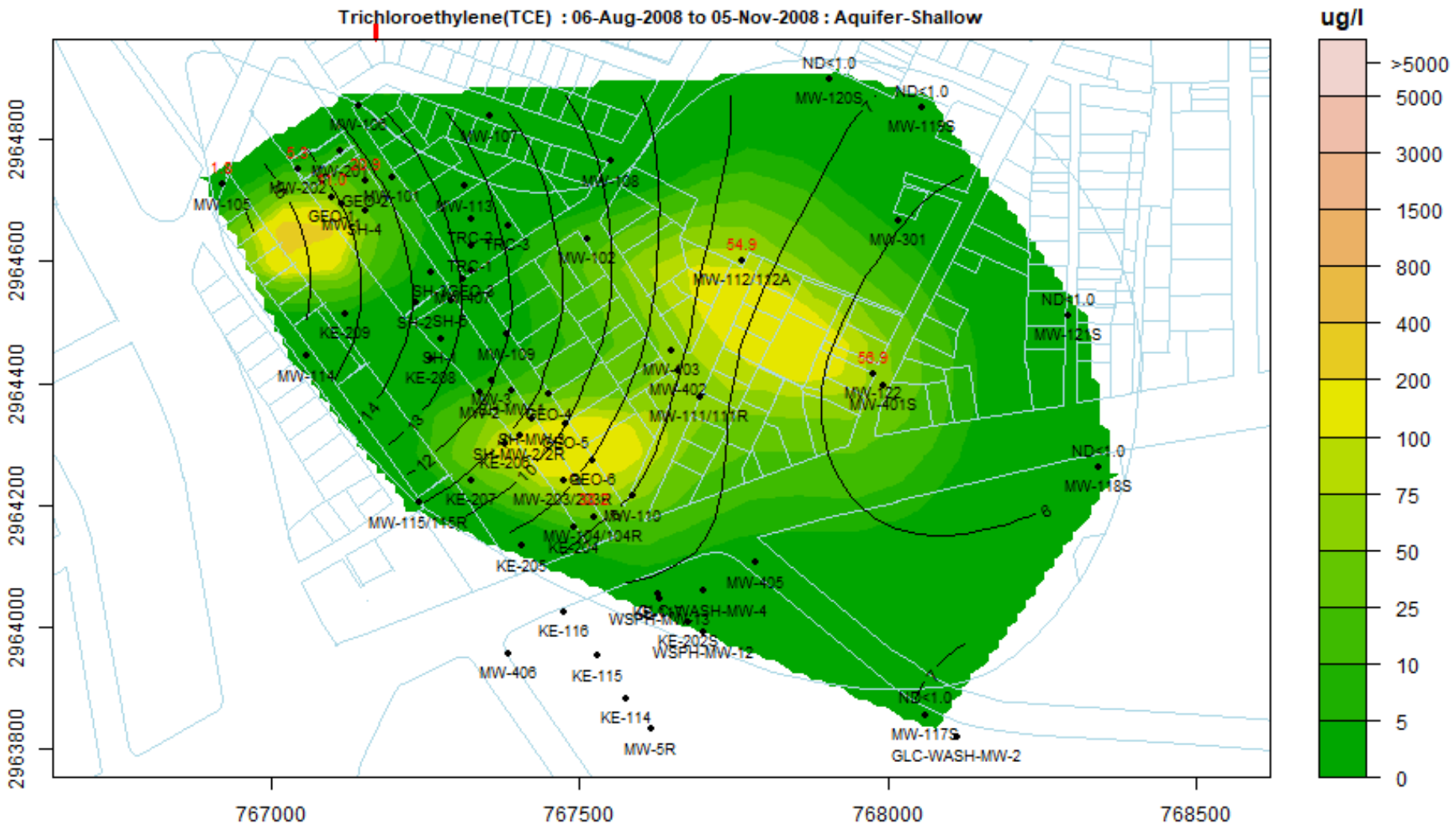
Trichloroethylene(TCE) : 06-Aug-2008 to 05-Nov-2008 : Aquifer-Shallow
ug/l
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MW-104/104R
MW-109
MW-113
MW-102
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GEO-4
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TRC-2
TRC-3
SH-1GEO-3
SH-2SH-3
SH-MW-2/2R
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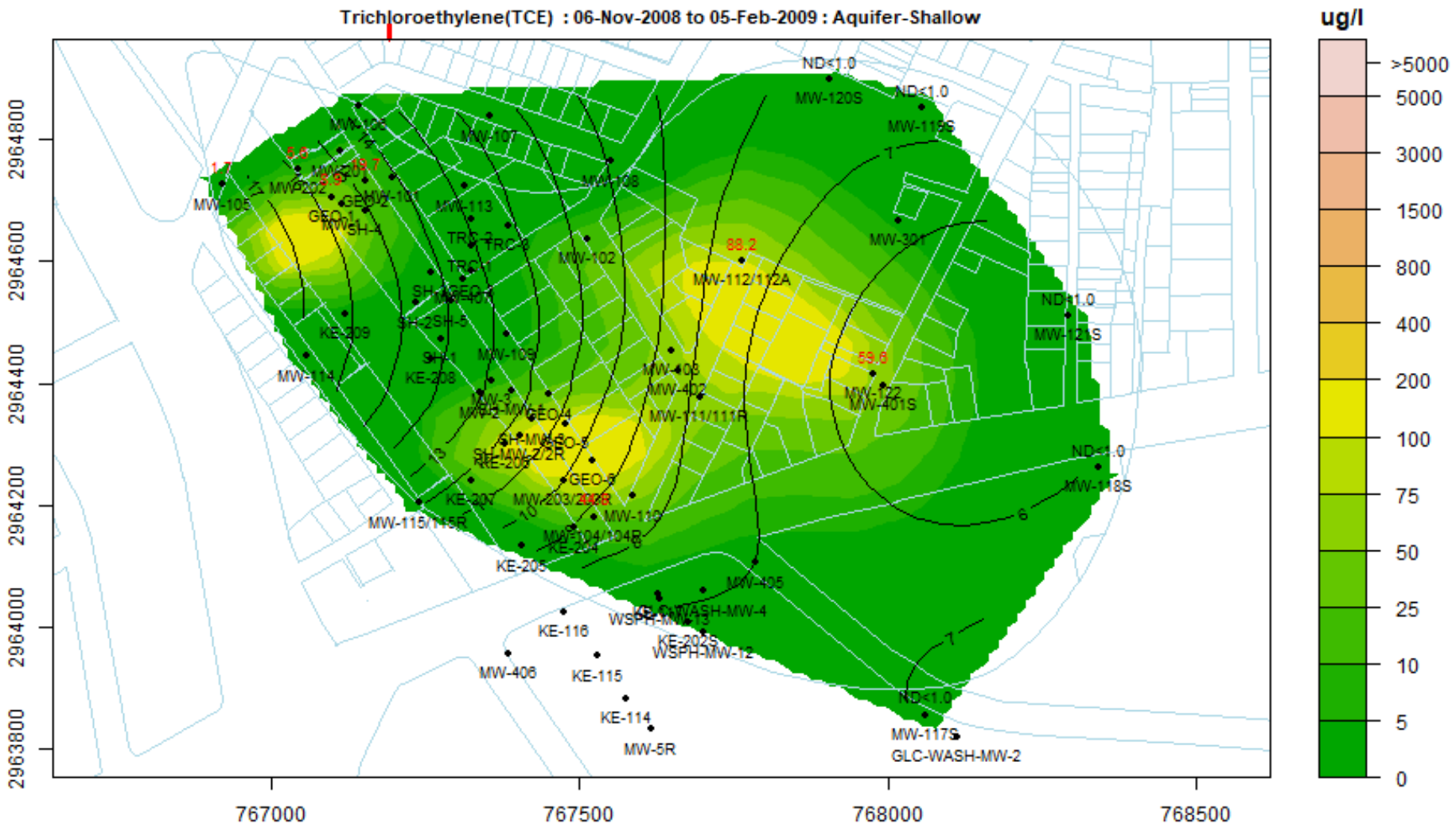
6


Trichloroethylene(TCE) : 06-Nov-2008 to 05-Feb-2009 : Aquifer-Shallow
ug/l
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800
400
200
100
75
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25
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768000
768500
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GEO-4
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TRC-3
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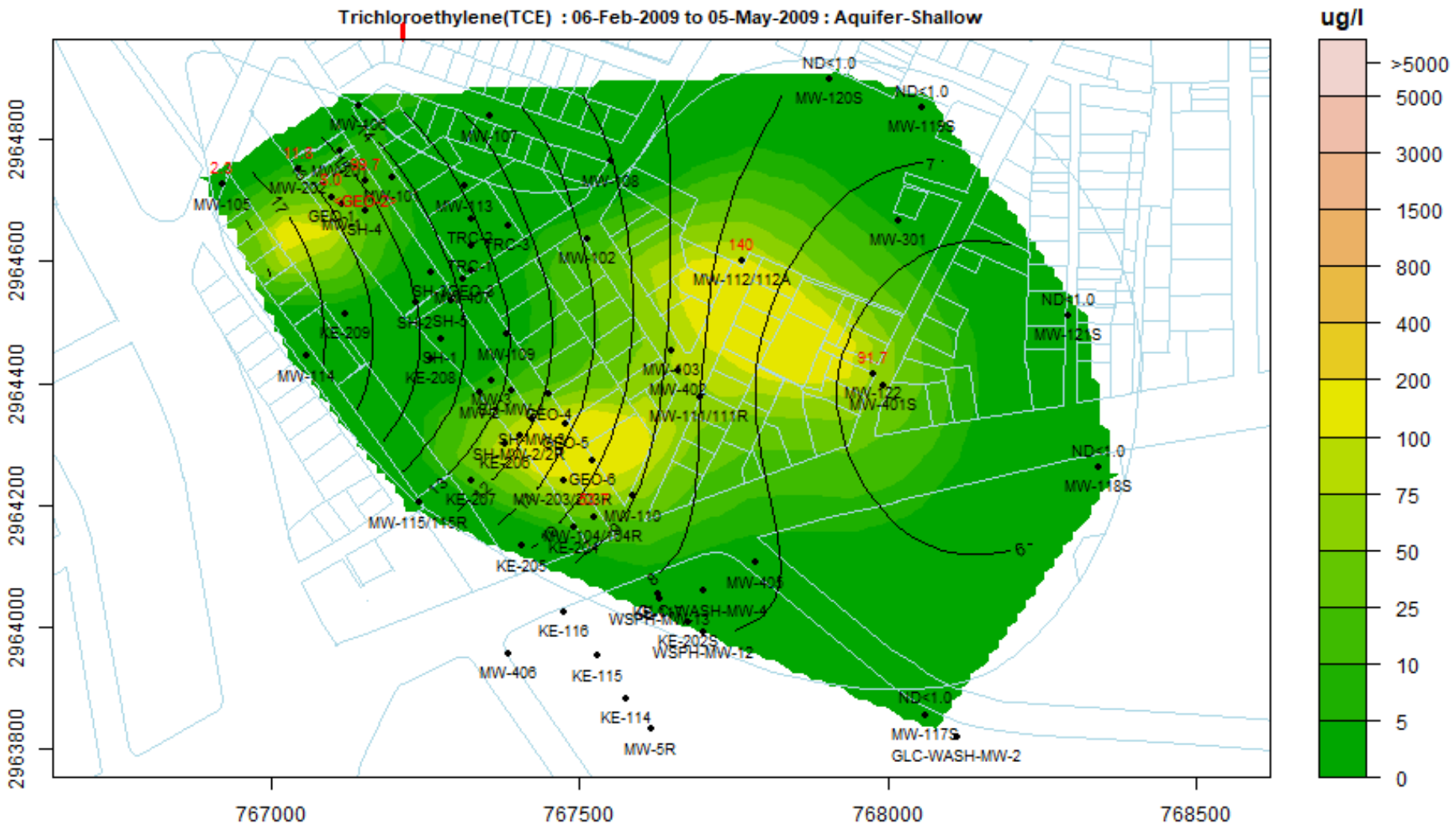
Trichloroethylene(TCE) : 06-Feb-2009 to 05-May-2009 : Aquifer-Shallow
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MW-406
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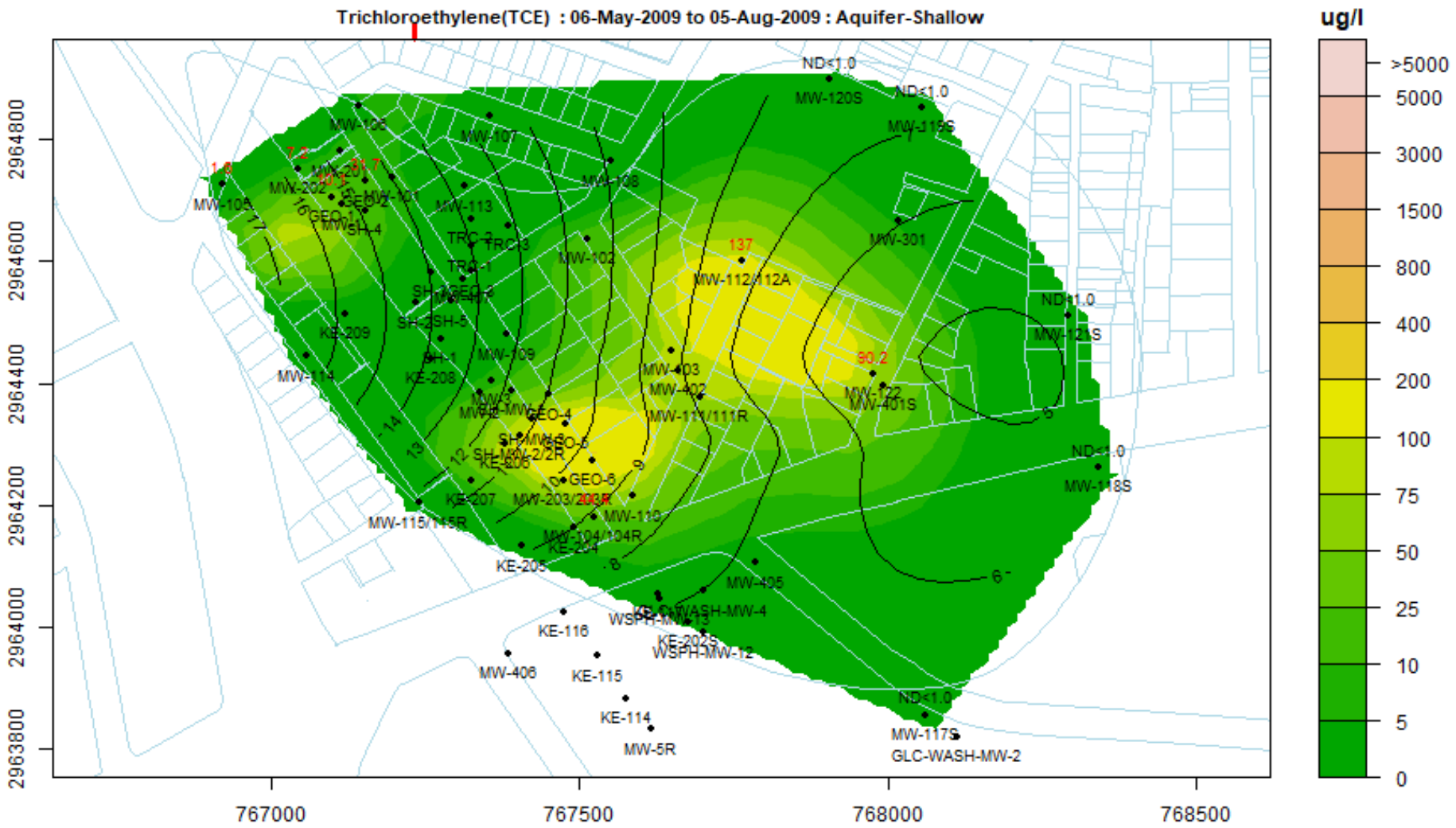
Trichloroethylene(TCE) : 06-May-2009 to 05-Aug-2009 : Aquifer-Shallow
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MW-104/104R
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GEO-6
SH-2/2R
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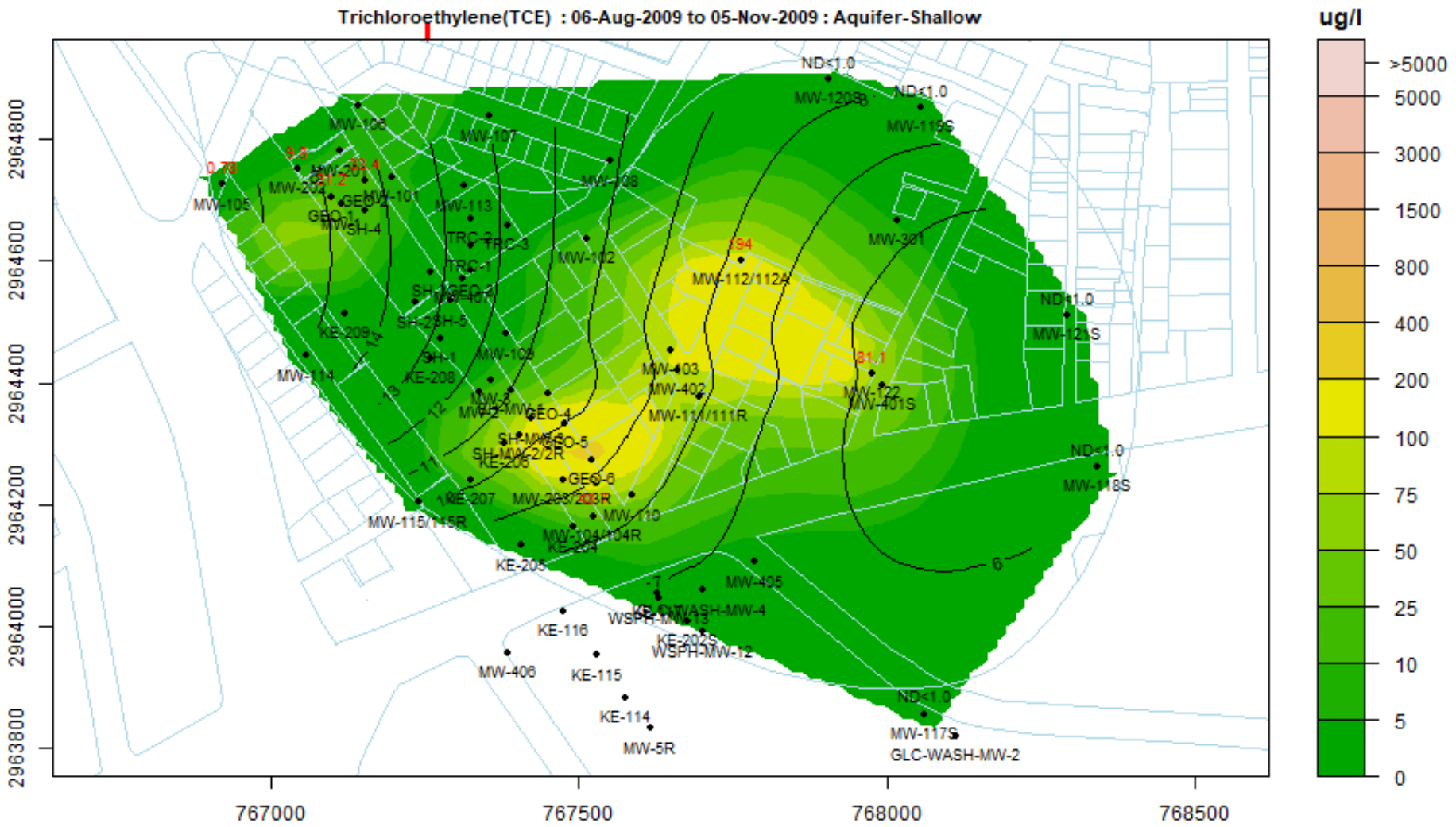
Trichloroethylene(TCE) : 06-Aug-2009 to 05-Nov-2009 : Aquifer-Shallow
ug/l
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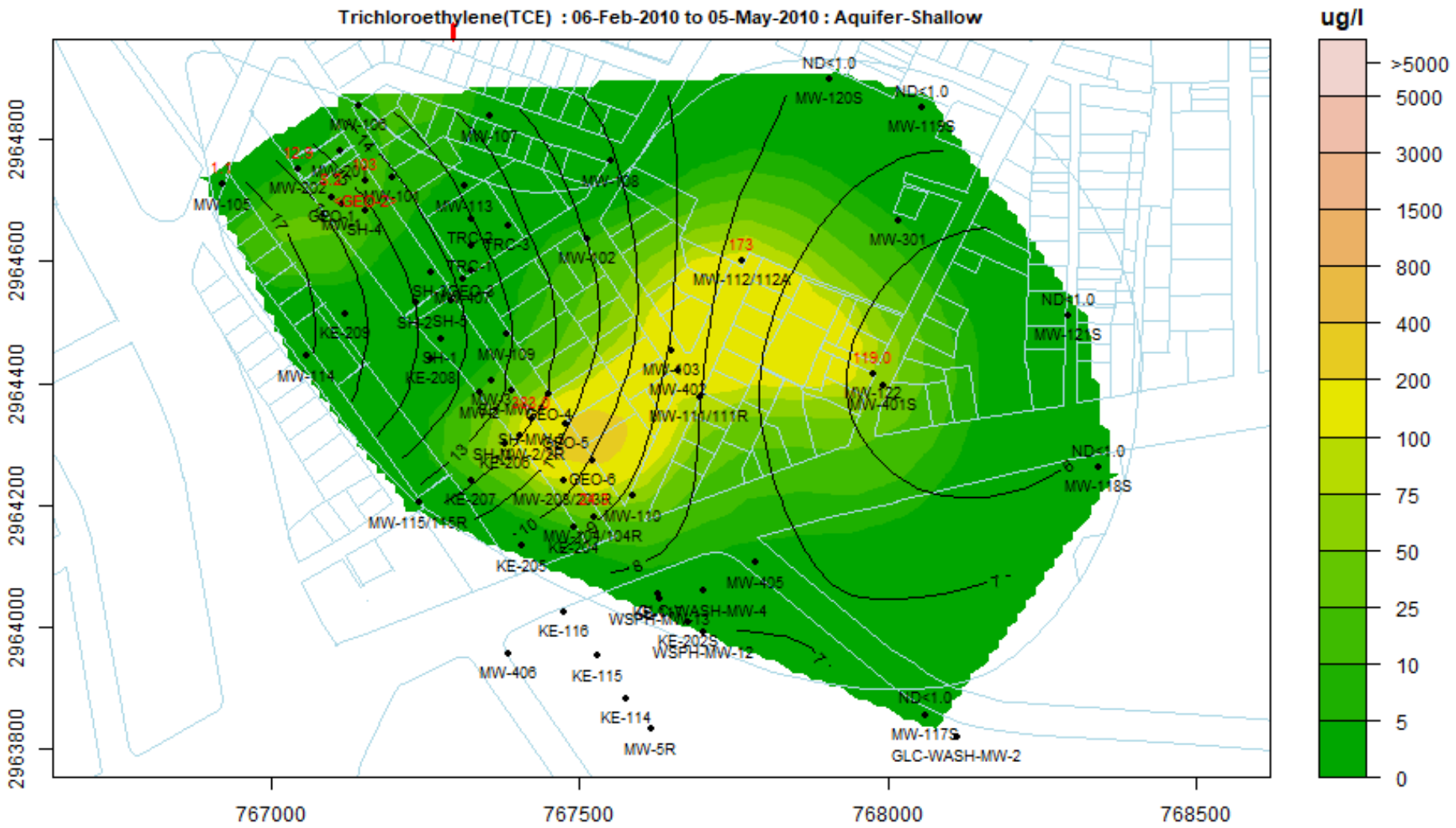
Trichloroethylene(TCE) : 06-Feb-2010 to 05-May-2010 : Aquifer-Shallow
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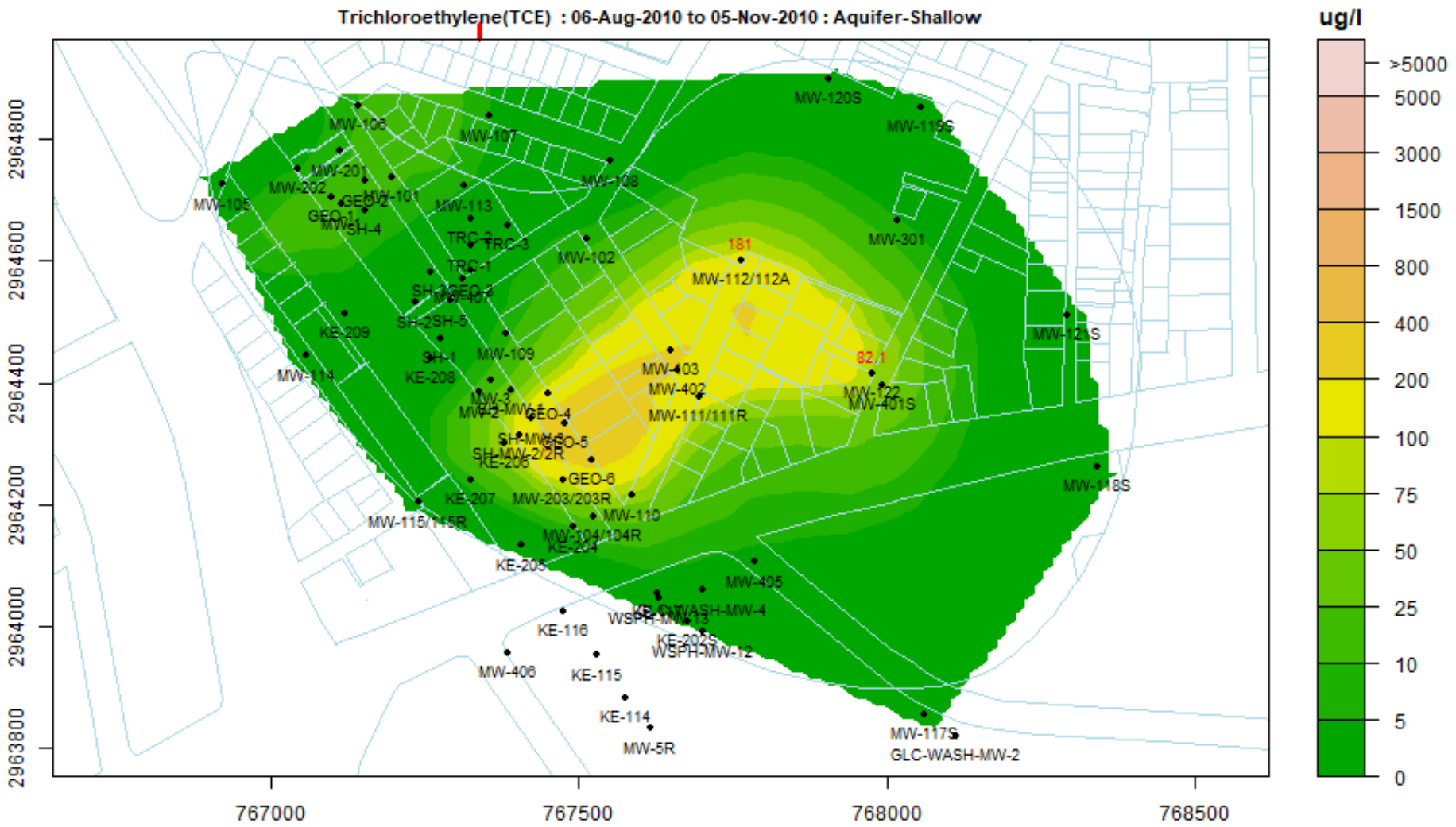
Trichloroethylene(TCE) : 06-Aug-2010 to 05-Nov-2010 : Aquifer-Shallow
ug/l
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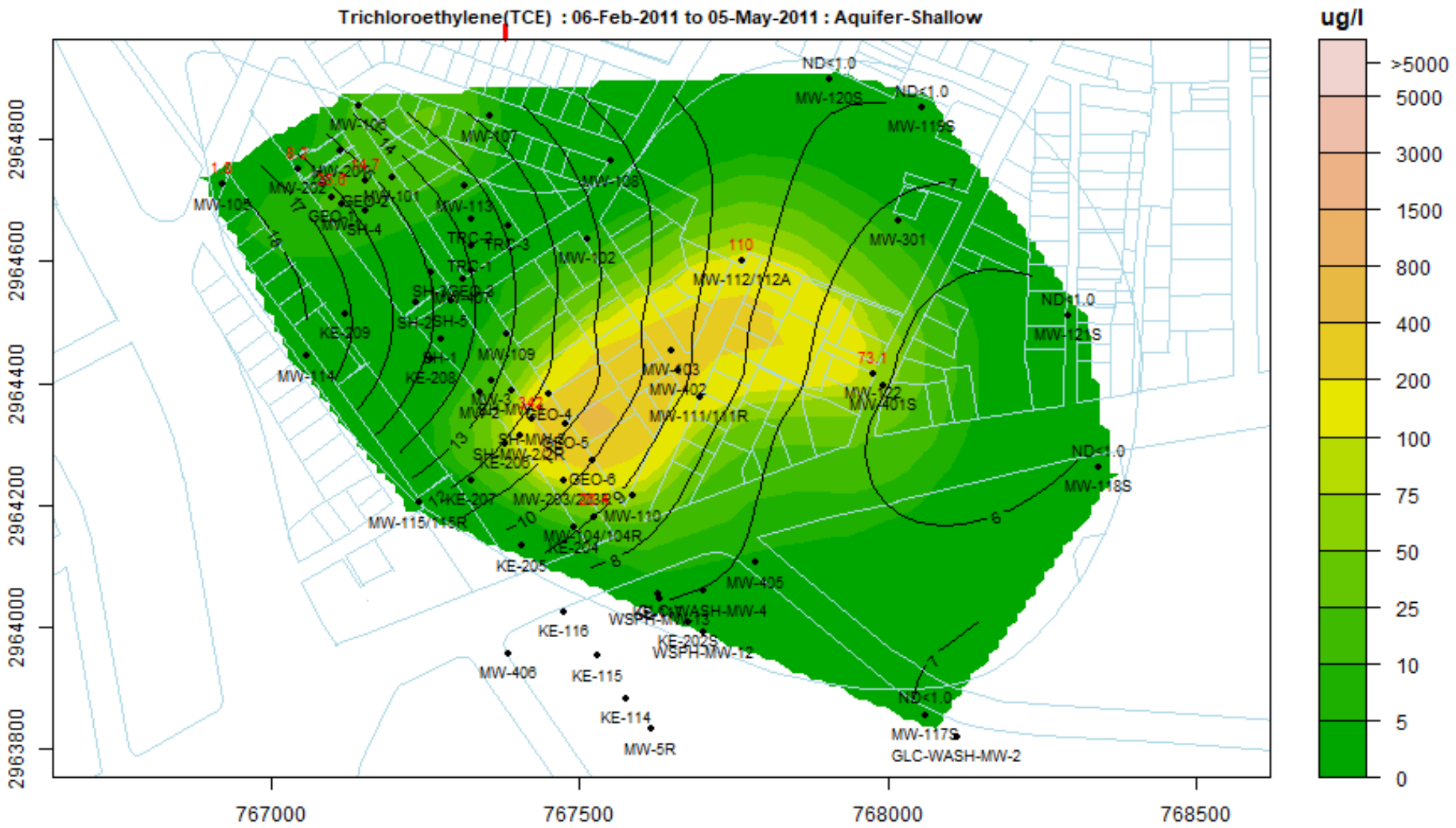
Trichloroethylene(TCE) : 06-Feb-2011 to 05-May-2011 : Aquifer-Shallow
ug/l
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MW-114
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GEO-4
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GEO-6
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TRC-2
TRC-3
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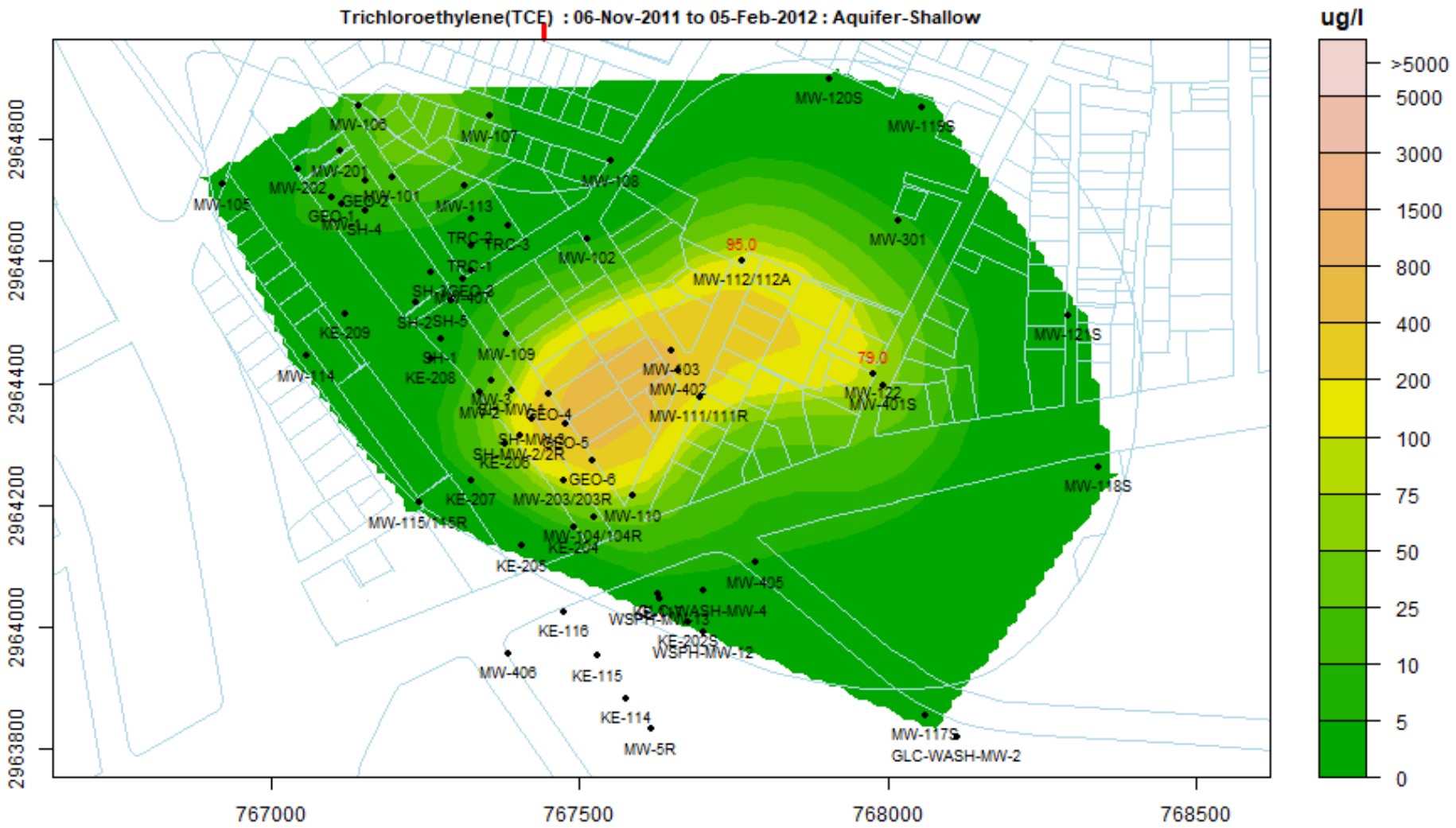
Trichloroethylene(TCE) : 06-Nov-2011 to 05-Feb-2012 : Aquifer-Shallow
ug/l
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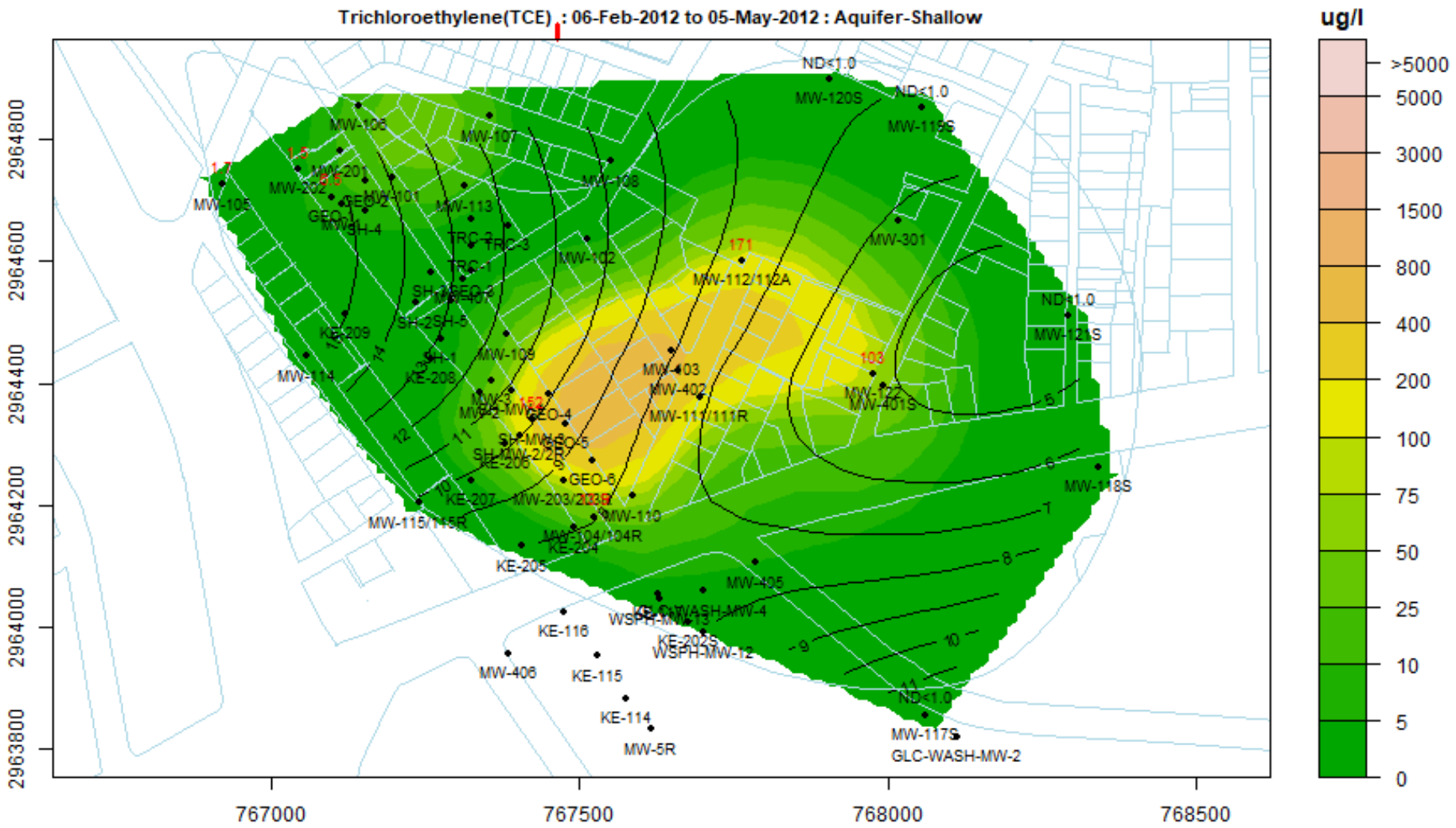
Trichloroethylene(TCE) : 06-Feb-2012 to 05-May-2012 : Aquifer-Shallow
ug/l
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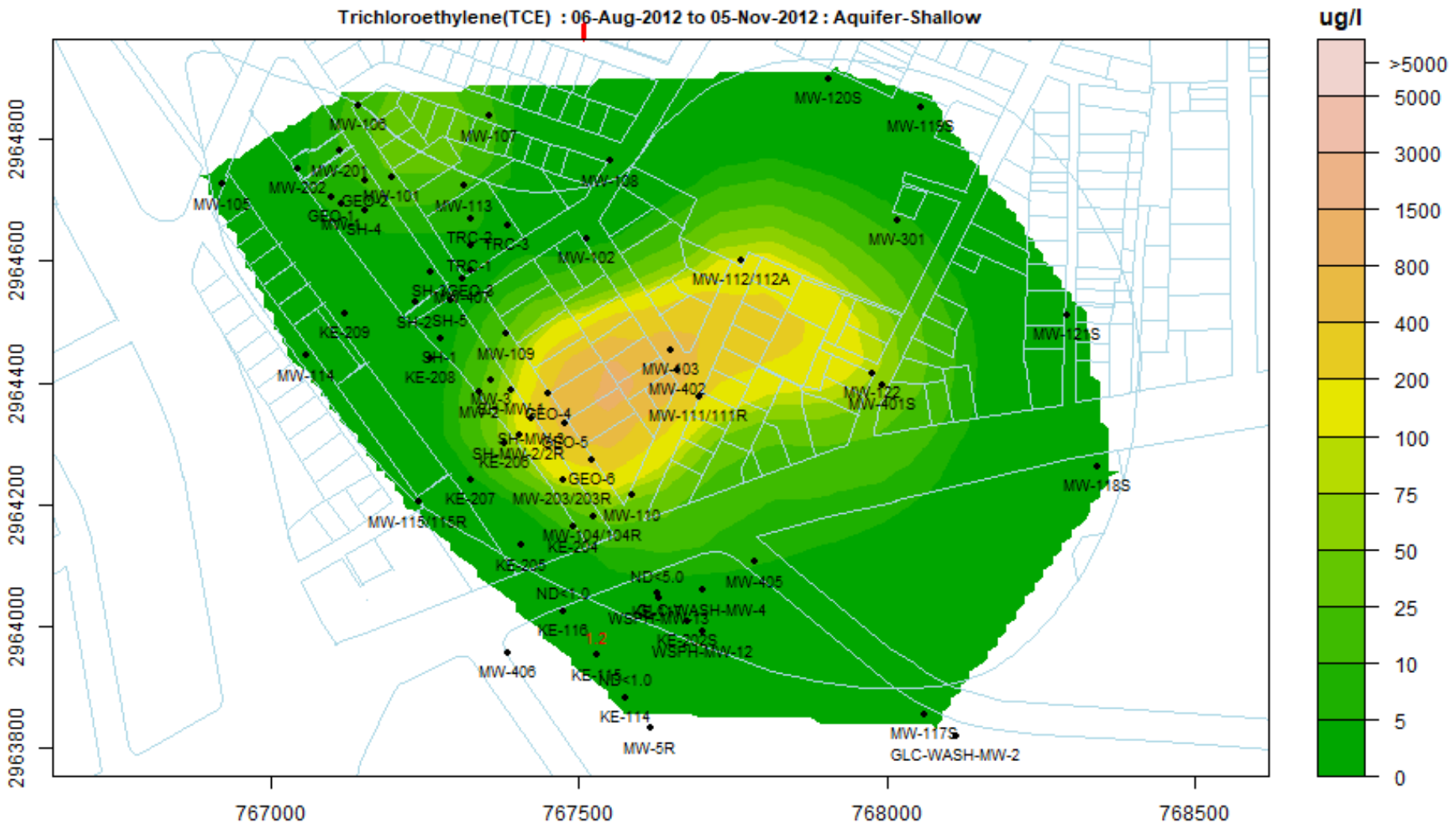
Trichloroethylene(TCE) : 06-Aug-2012 to 05-Nov-2012 : Aquifer-Shallow
ug/l
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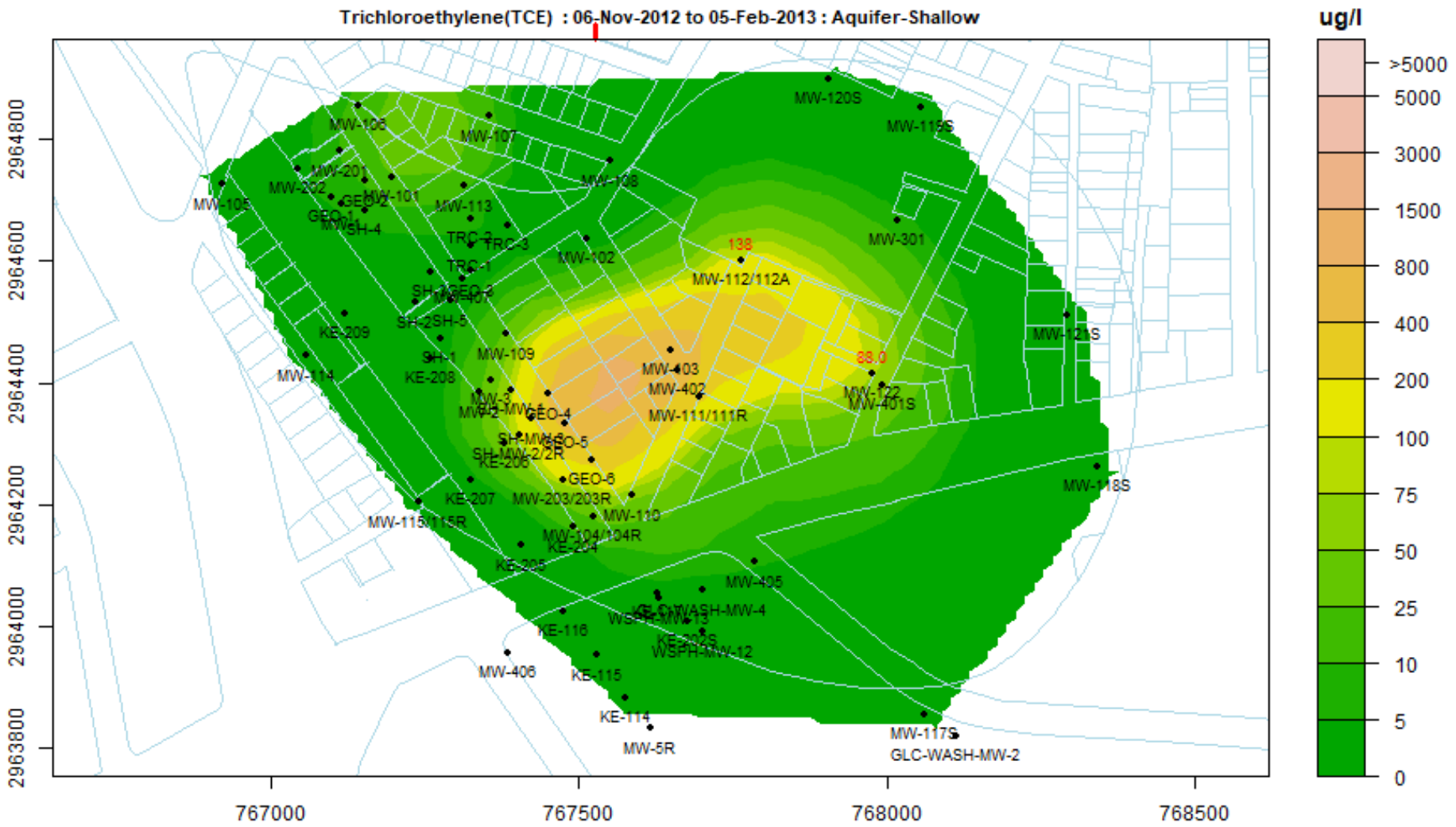
Trichloroethylene(TCE) : 06-Nov-2012 to 05-Feb-2013 : Aquifer-Shallow
ug/l
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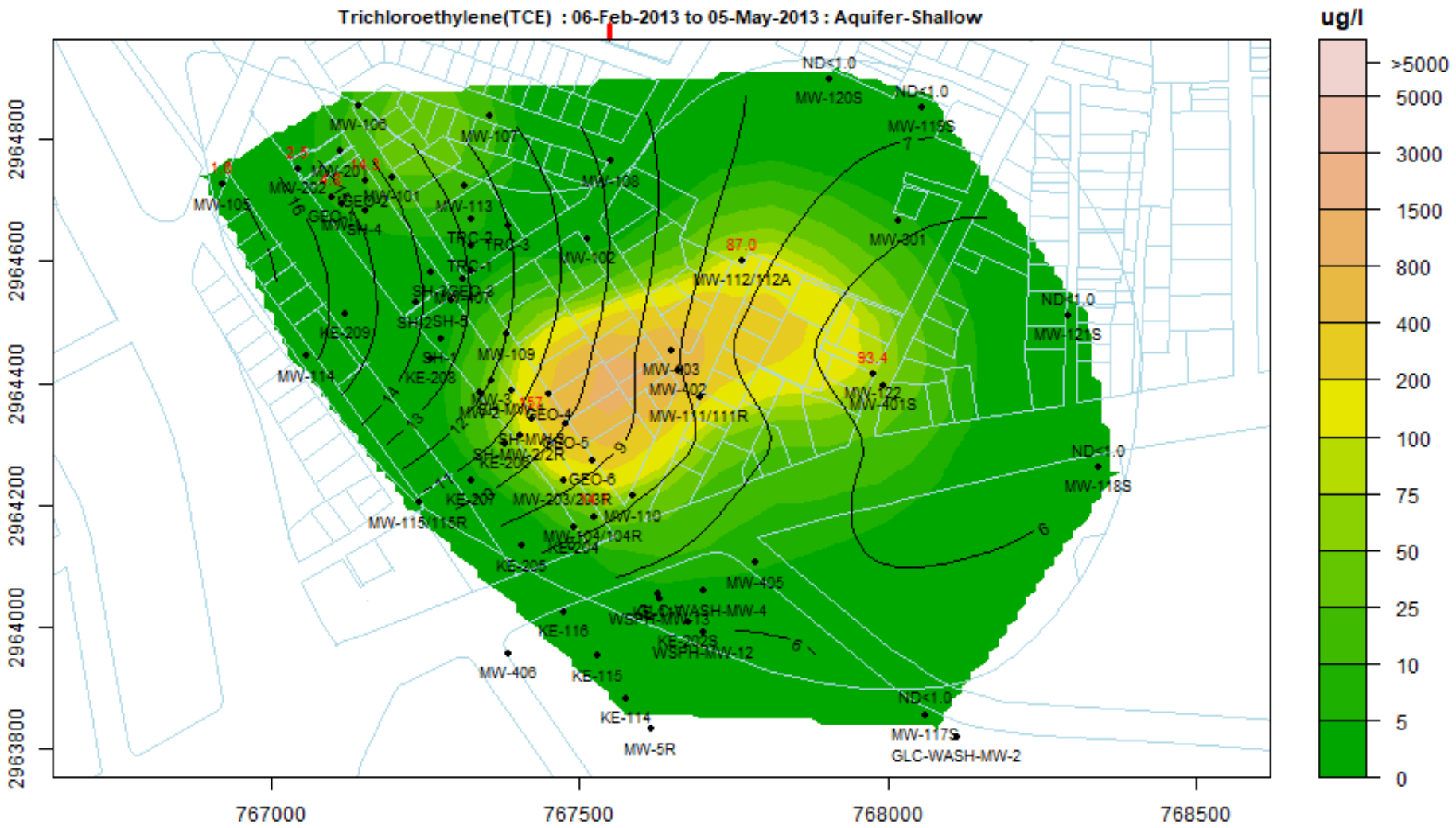
Trichloroethylene(TCE) : 06-Feb-2013 to 05-May-2013 : Aquifer-Shallow
ug/l
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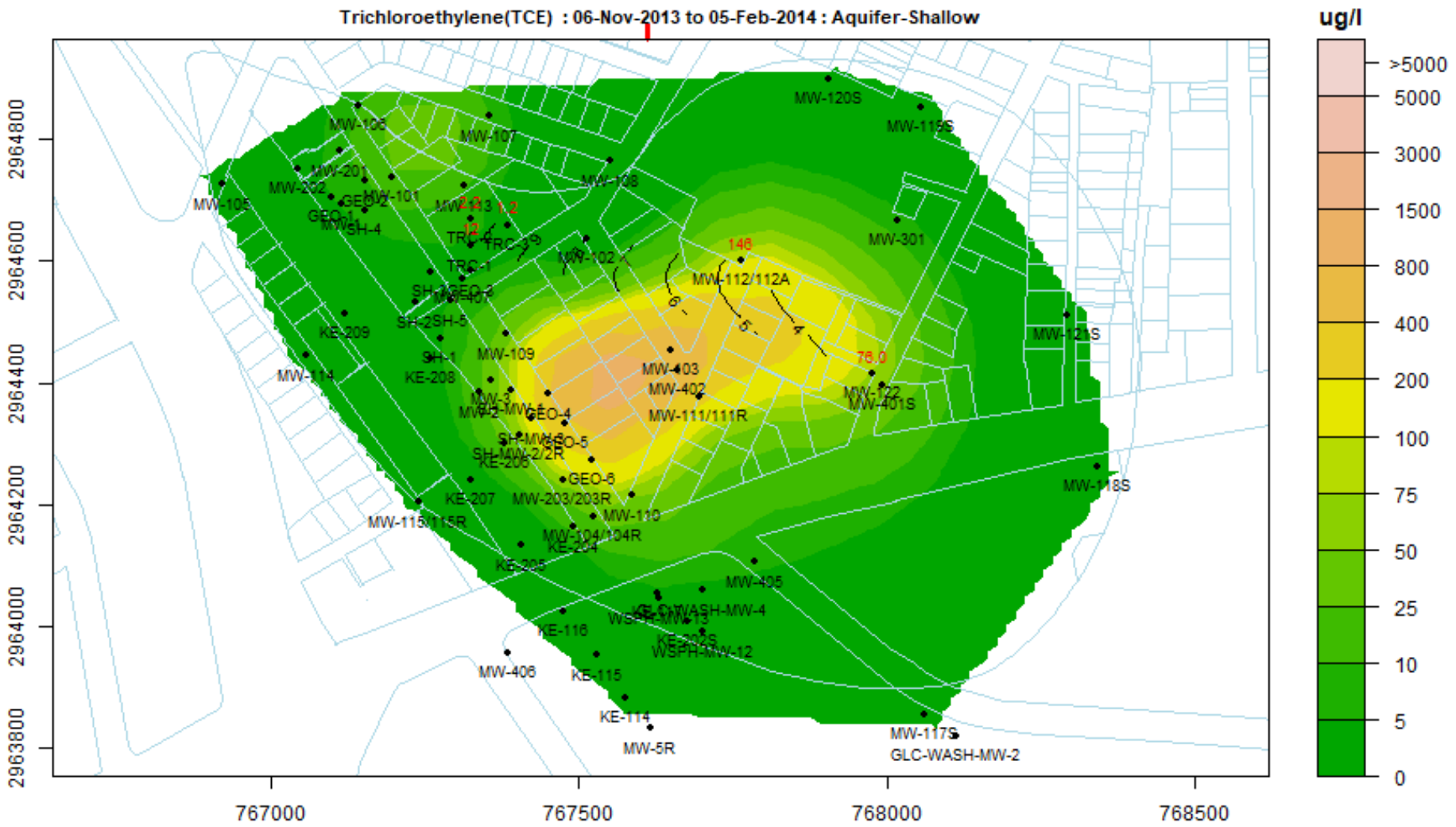
Trichloroethylene(TCE) : 06-Nov-2013 to 05-Feb-2014 : Aquifer-Shallow
ug/l
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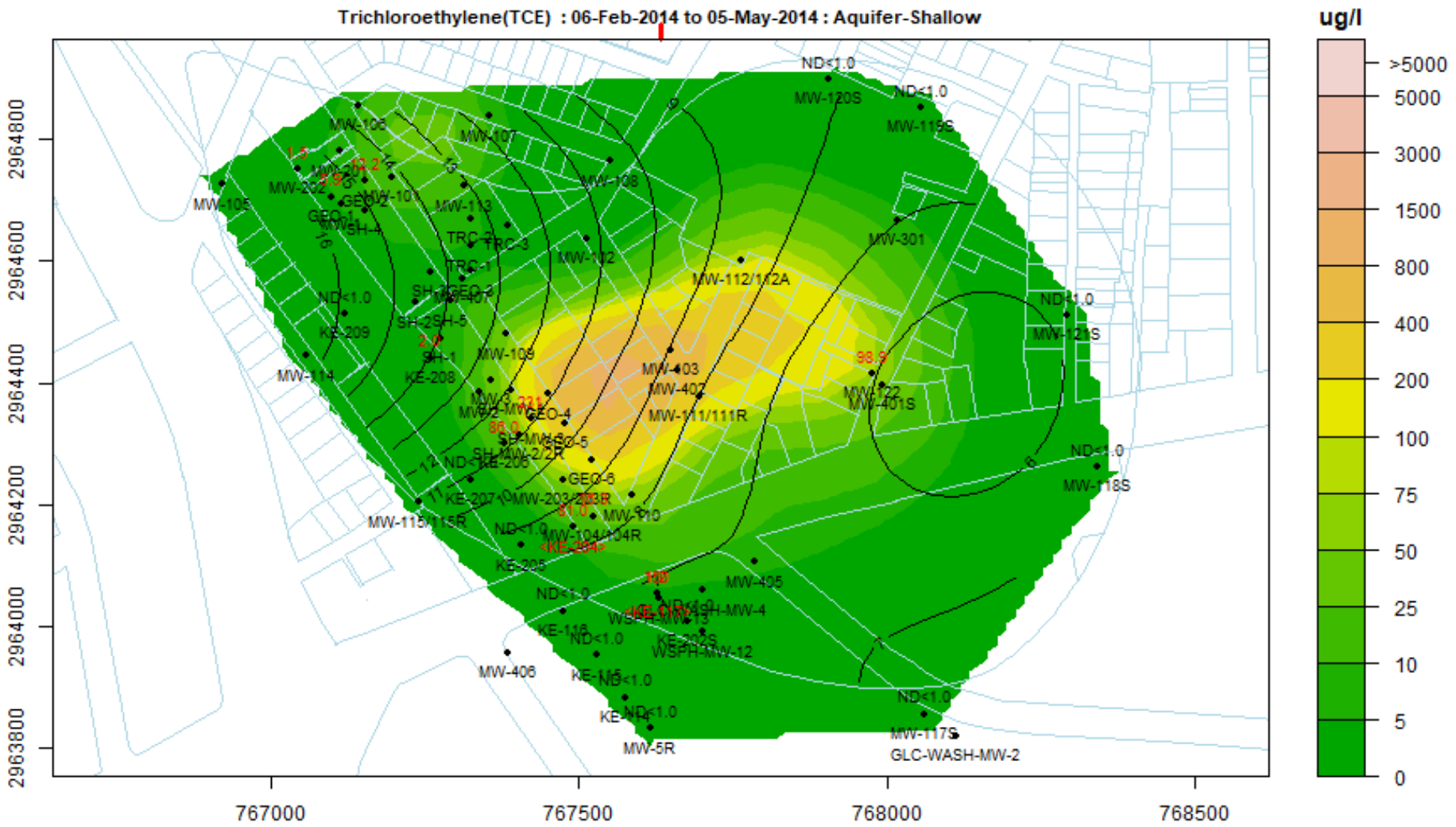
Trichloroethylene(TCE) : 06-Feb-2014 to 05-May-2014 : Aquifer-Shallow
ug/l
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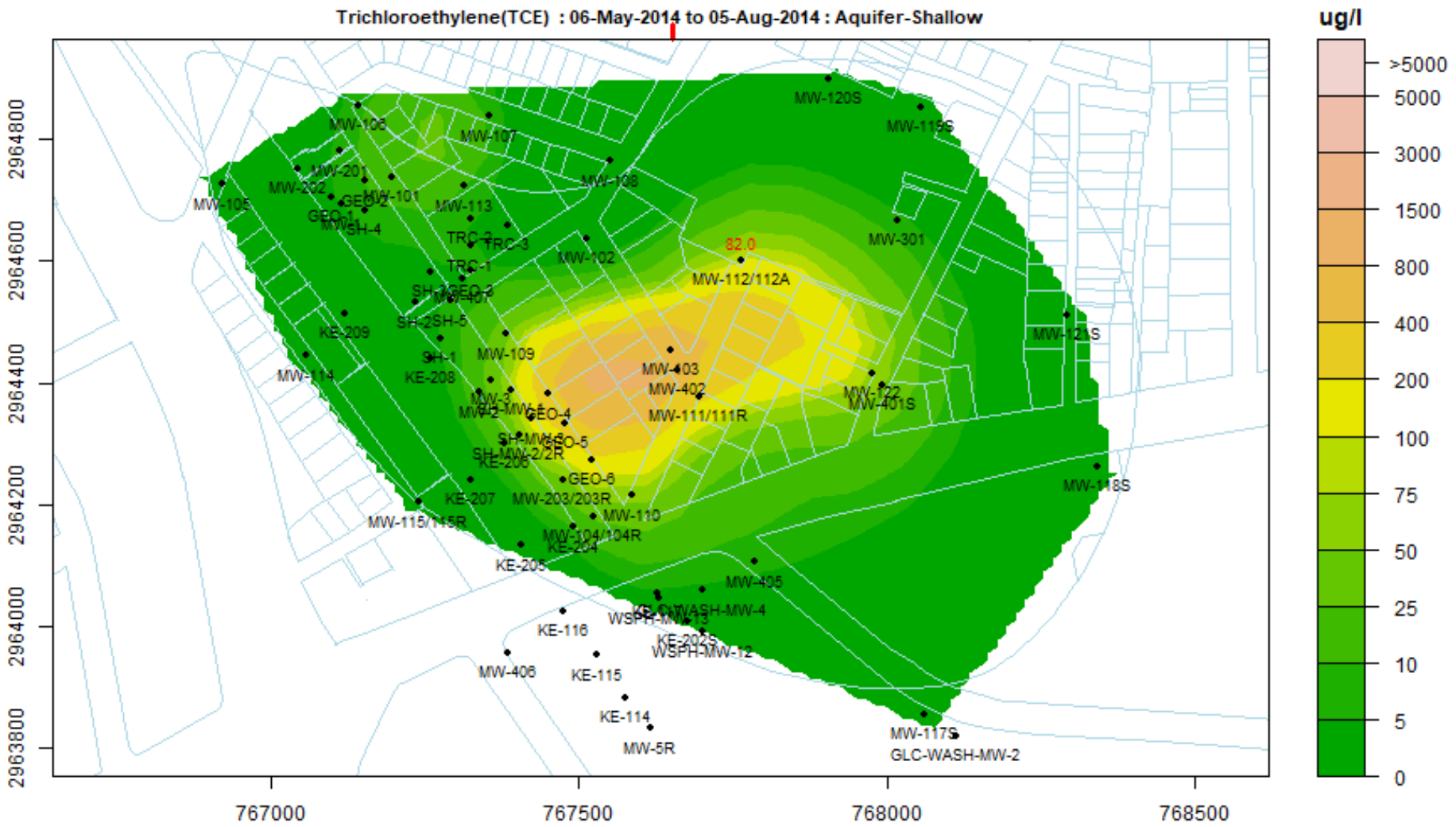
Trichloroethylene(TCE) : 06-May-2014 to 05-Aug-2014 : Aquifer-Shallow
ug/l
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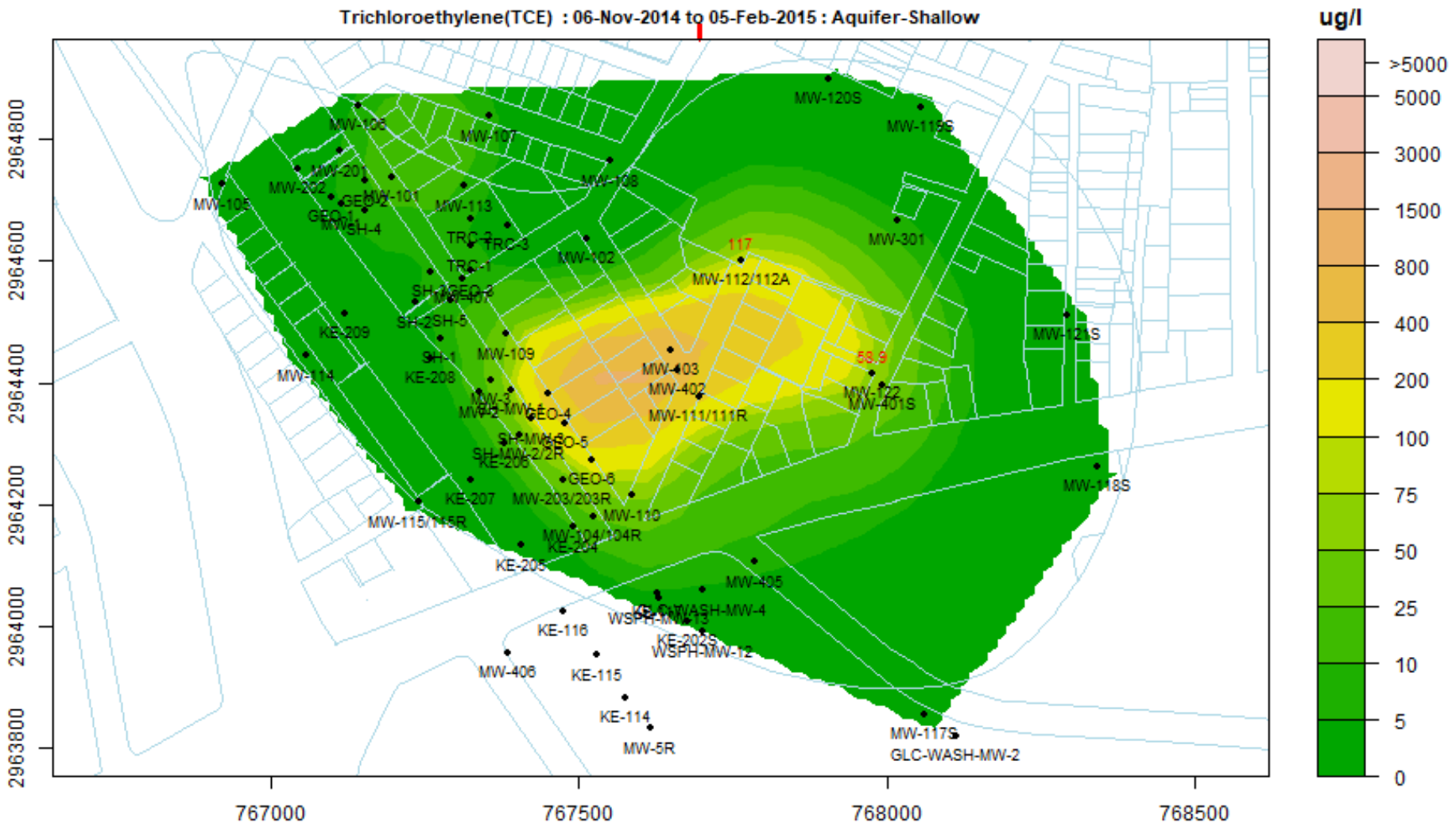
Trichloroethylene(TCE) : 06-Nov-2014 to 05-Feb-2015 : Aquifer-Shallow
ug/l
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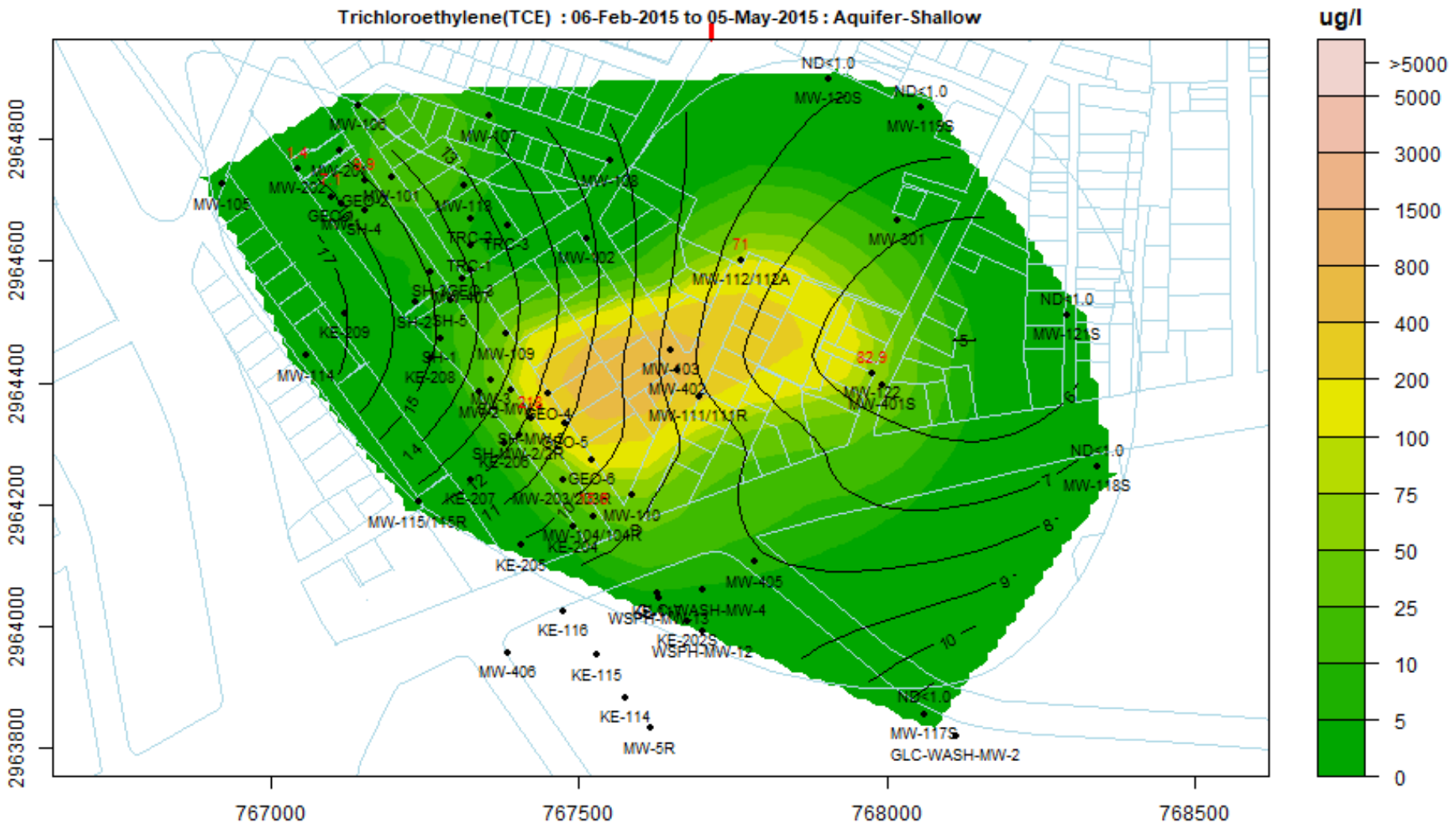
Trichloroethylene(TCE) : 06-Feb-2015 to 05-May-2015 : Aquifer-Shallow
ug/l
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1500
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400
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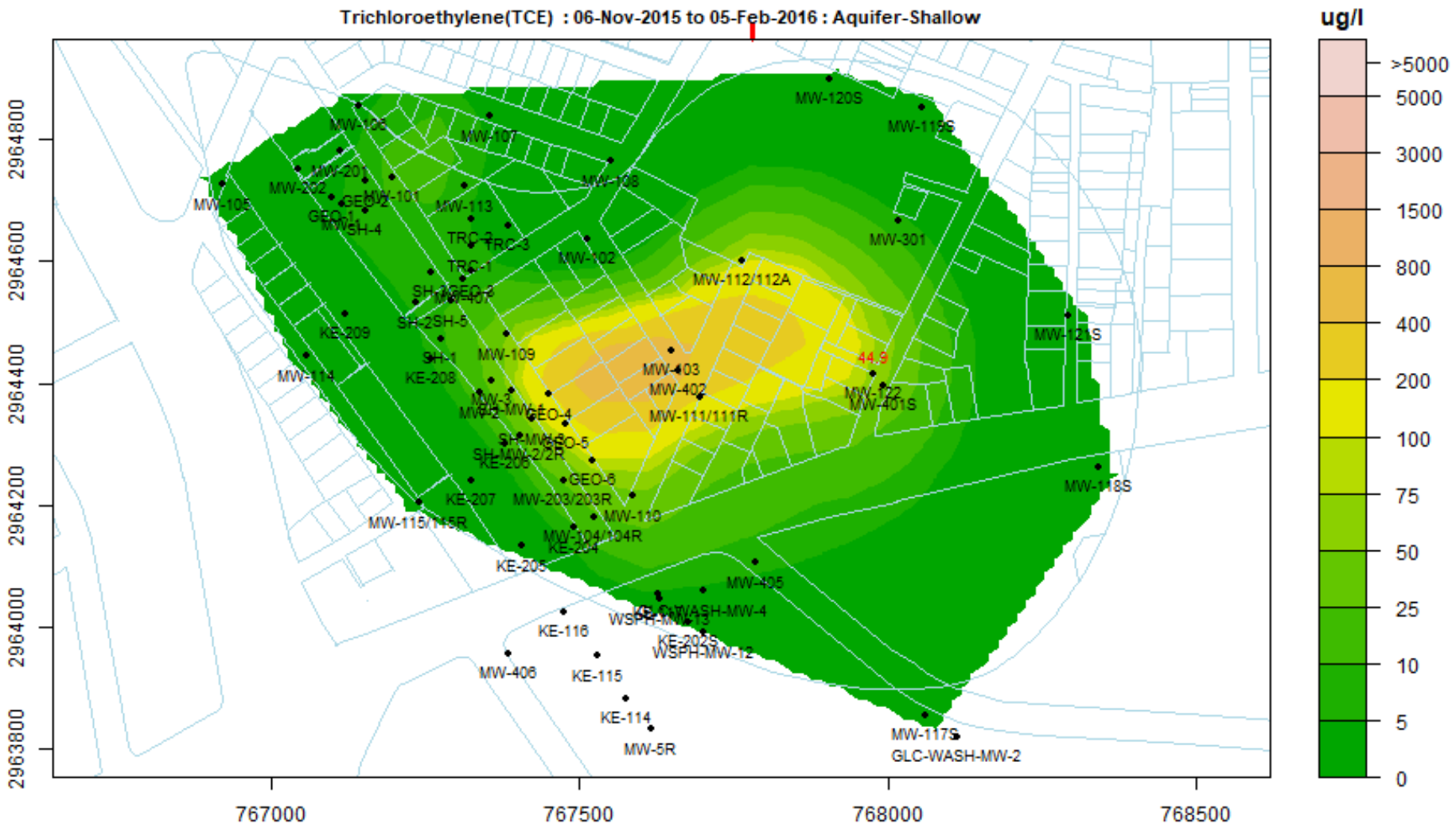
Trichloroethylene(TCE) : 06-Nov-2015 to 05-Feb-2016 : Aquifer-Shallow
ug/l
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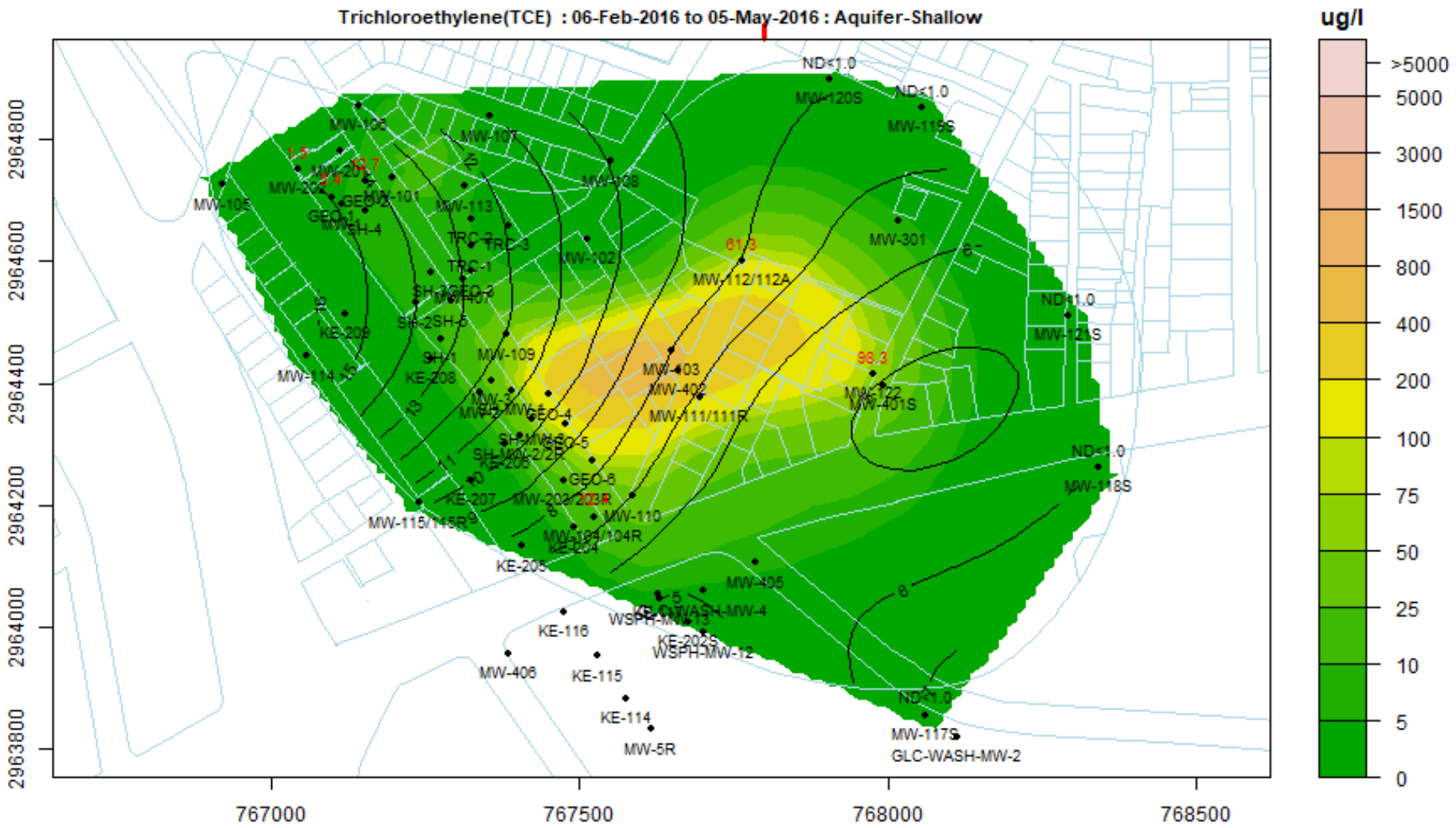
Trichloroethylene(TCE) : 06-Feb-2016 to 05-May-2016 : Aquifer-Shallow
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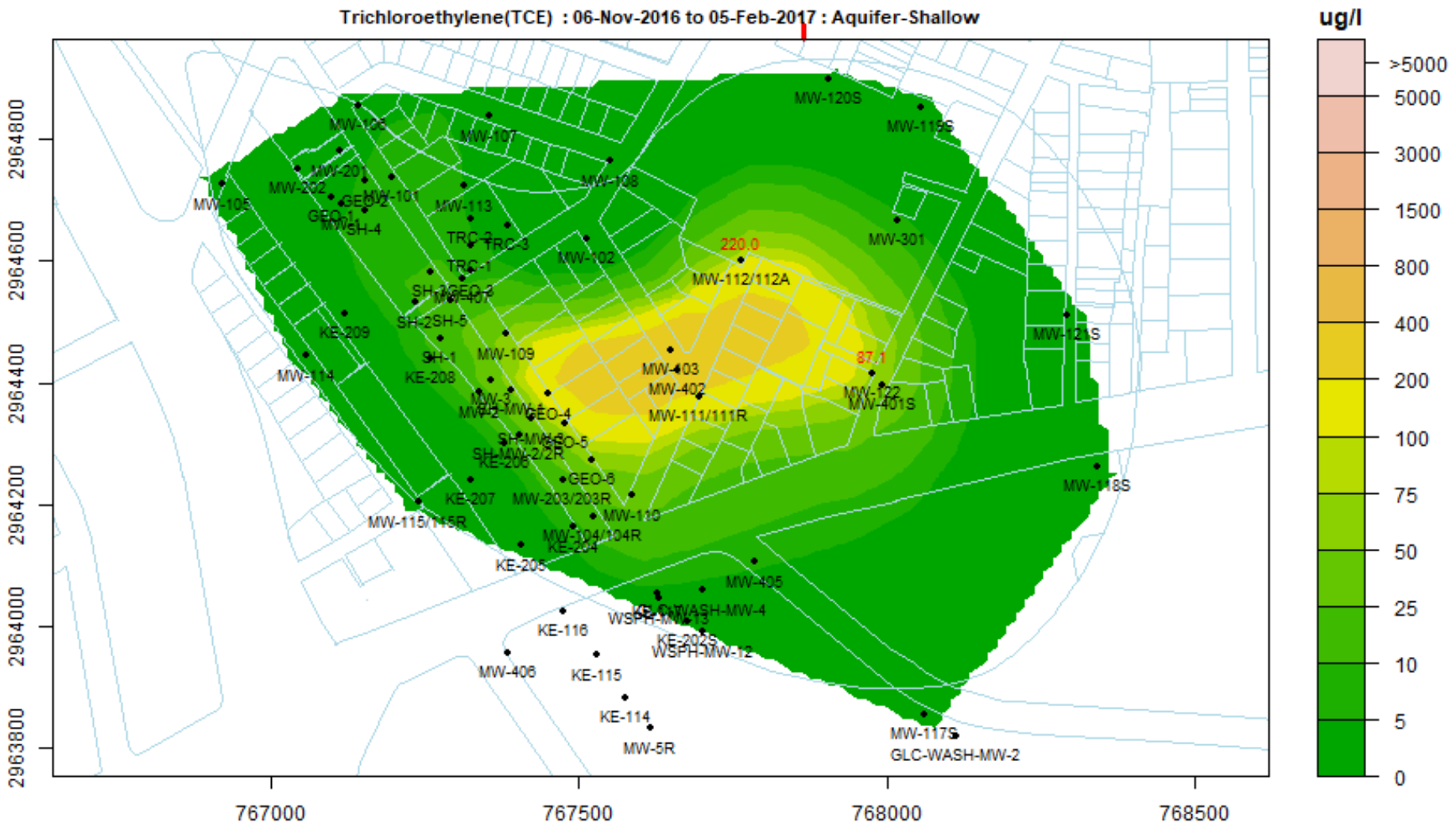
Trichloroethylene(TCE) : 06-Nov-2016 to 05-Feb-2017 : Aquifer-Shallow
ug/l
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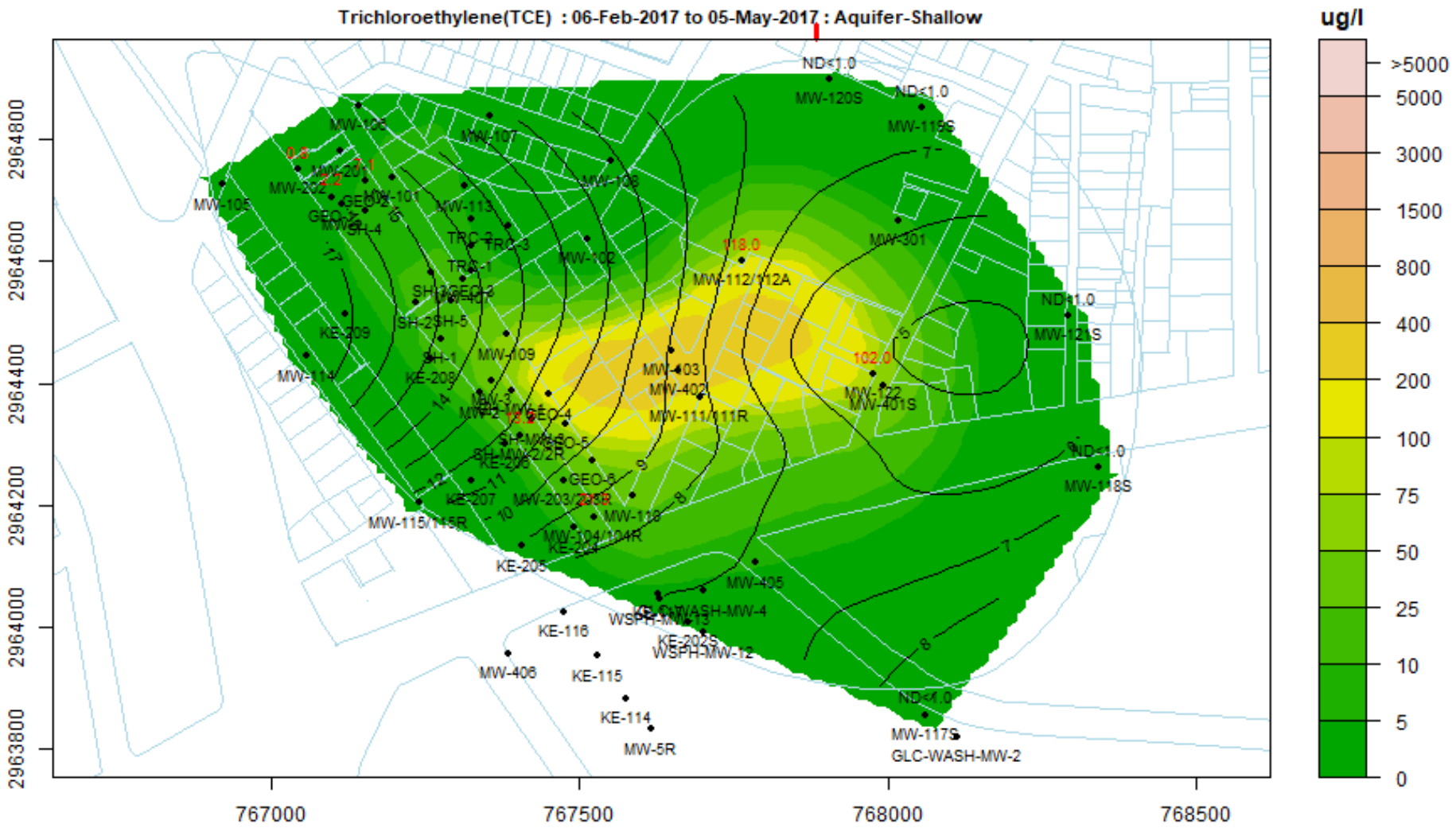
Trichloroethylene(TCE) : 06-Feb-2017 to 05-May-2017 : Aquifer-Shallow
ug/l
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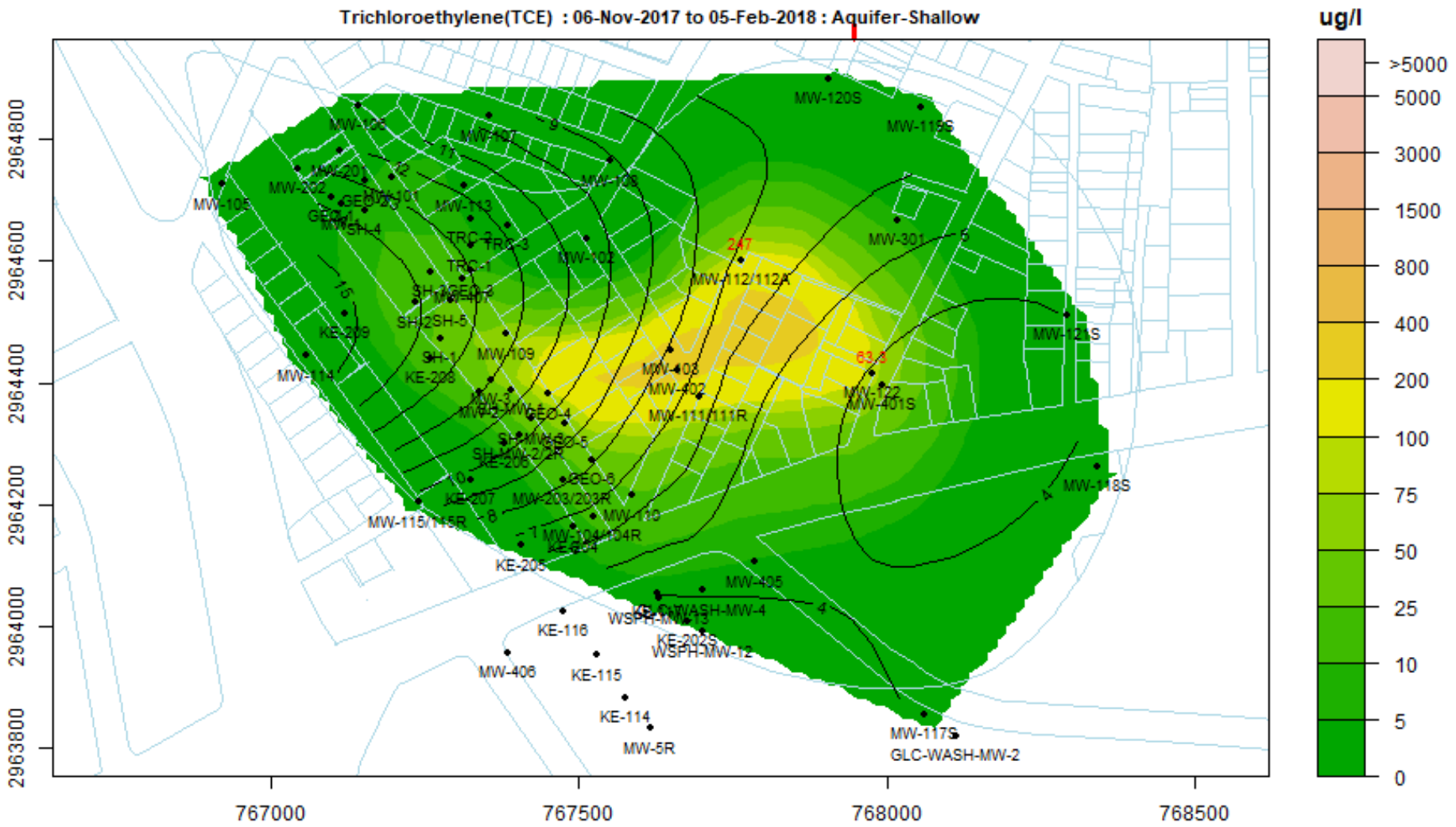
Trichloroethylene(TCE) : 06-Nov-2017 to 05-Feb-2018 : Aquifer-Shallow
ug/l
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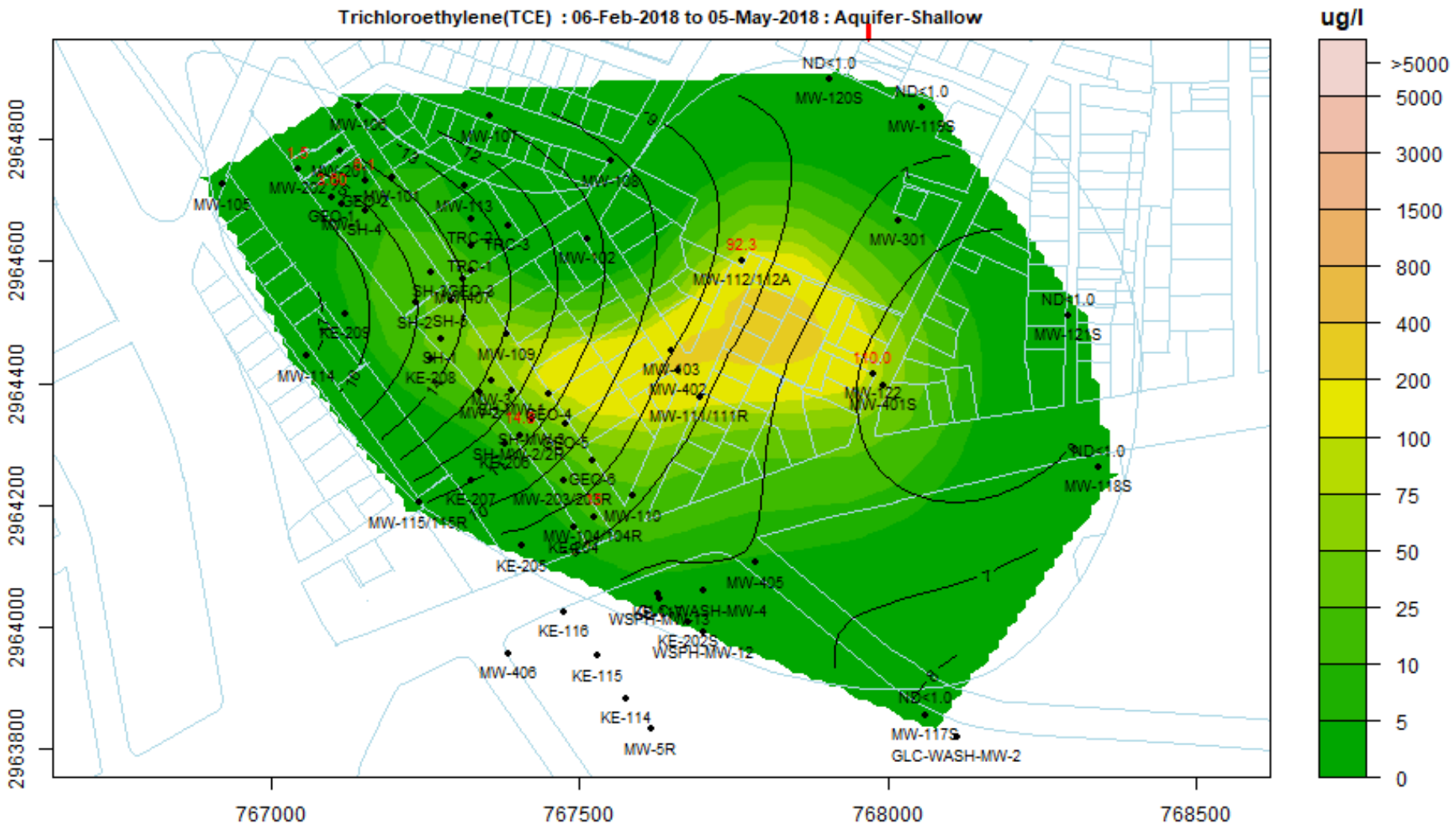
Trichloroethylene(TCE) : 06-Feb-2018 to 05-May-2018 : Aquifer-Shallow
ug/l
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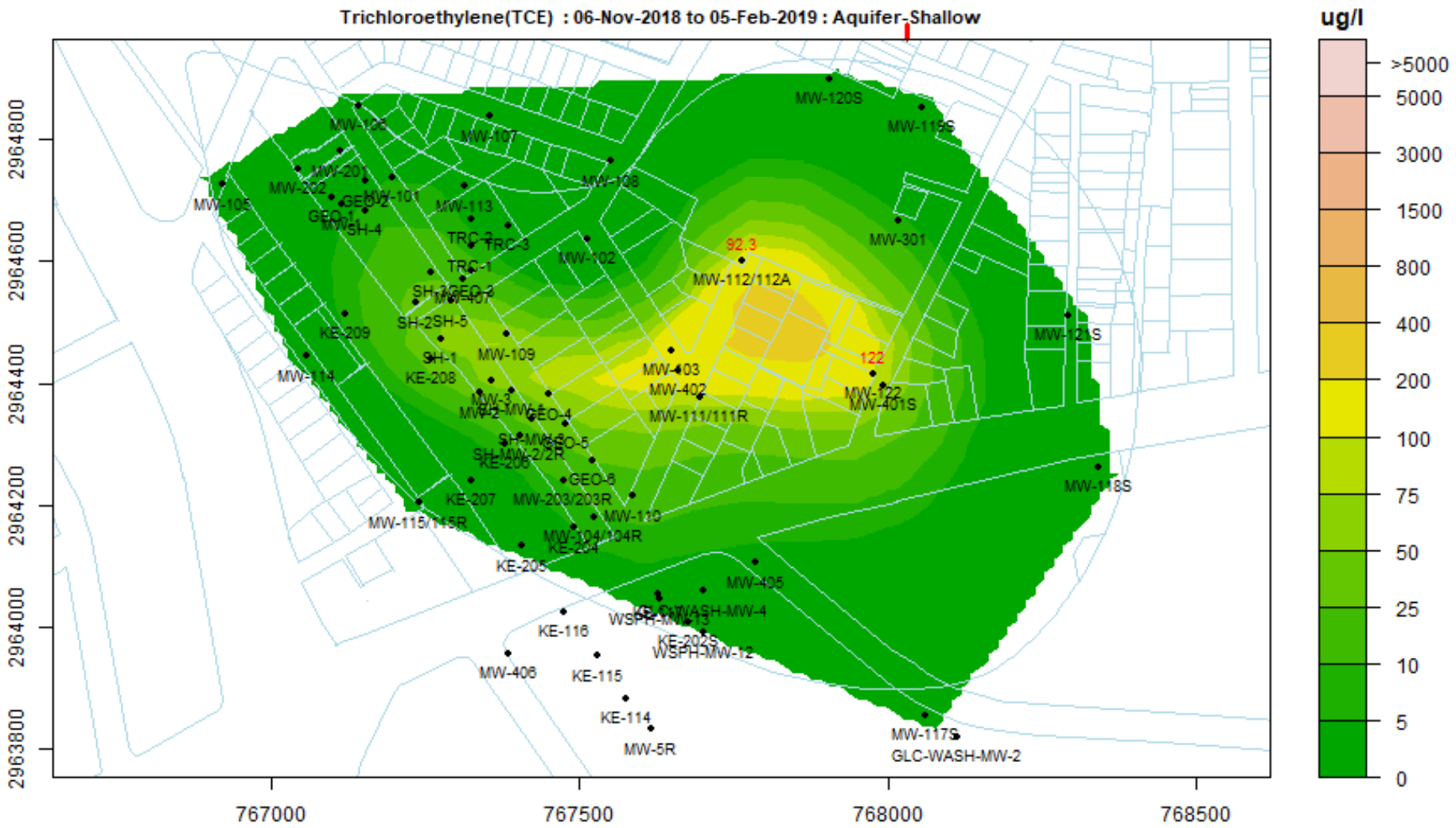
Trichloroethylene(TCE) : 06-Nov-2018 to 05-Feb-2019 : Aquifer-Shallow
ug/l
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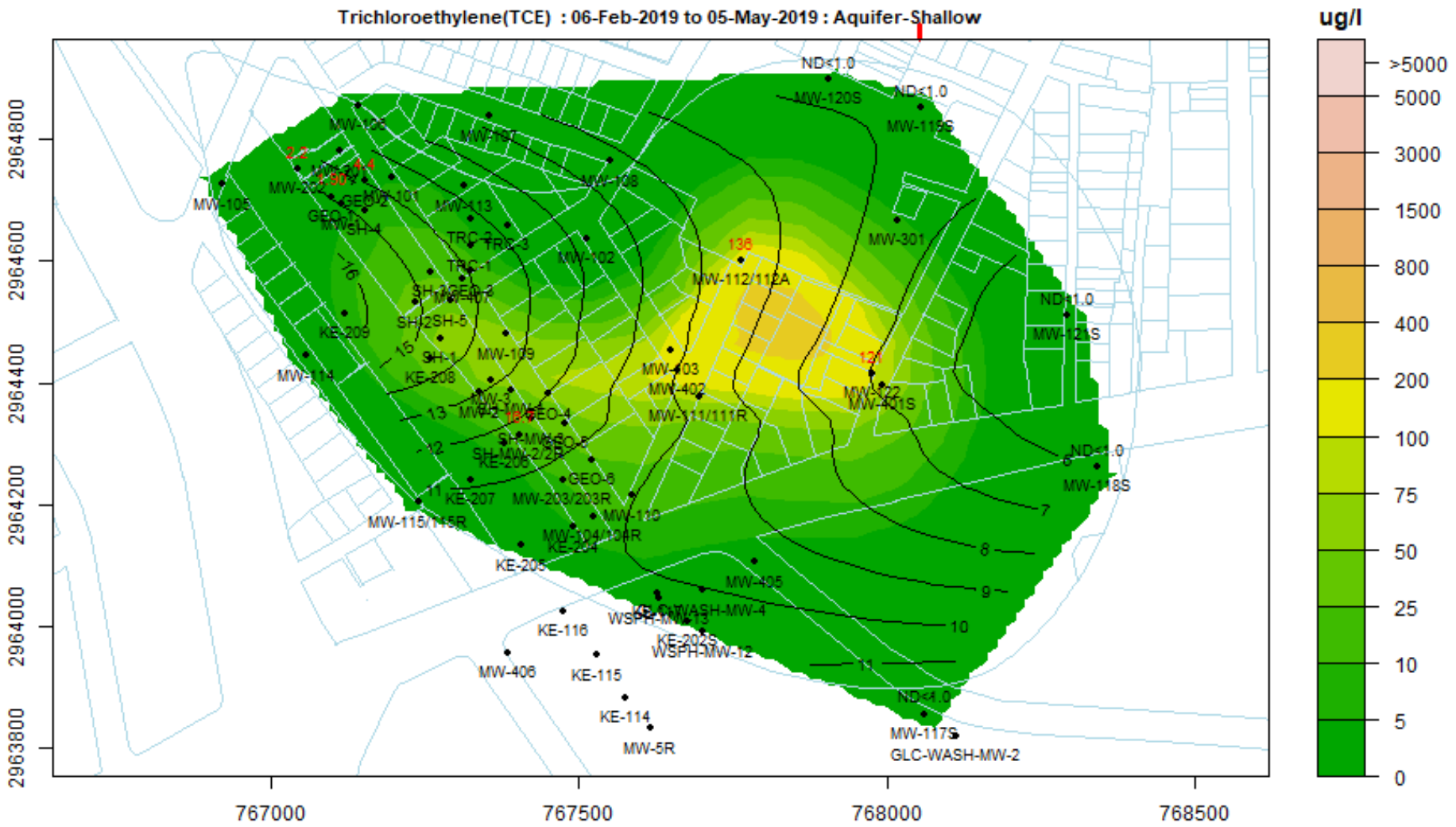
Trichloroethylene(TCE) : 06-Feb-2019 to 05-May-2019 : Aquifer-Shallow
ug/l
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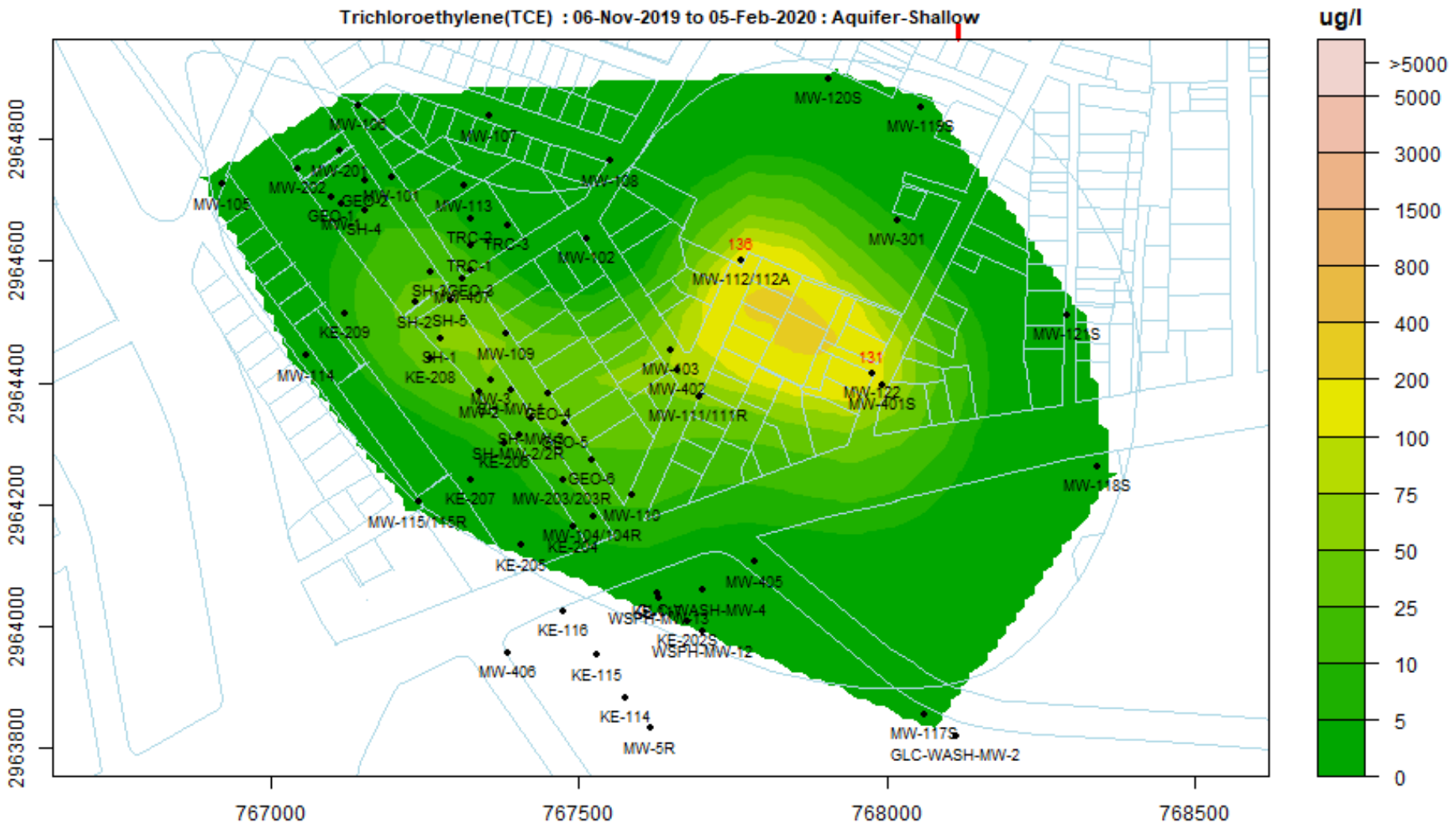
Trichloroethylene(TCE) : 06-Nov-2019 to 05-Feb-2020 : Aquifer-Shallow
ug/l
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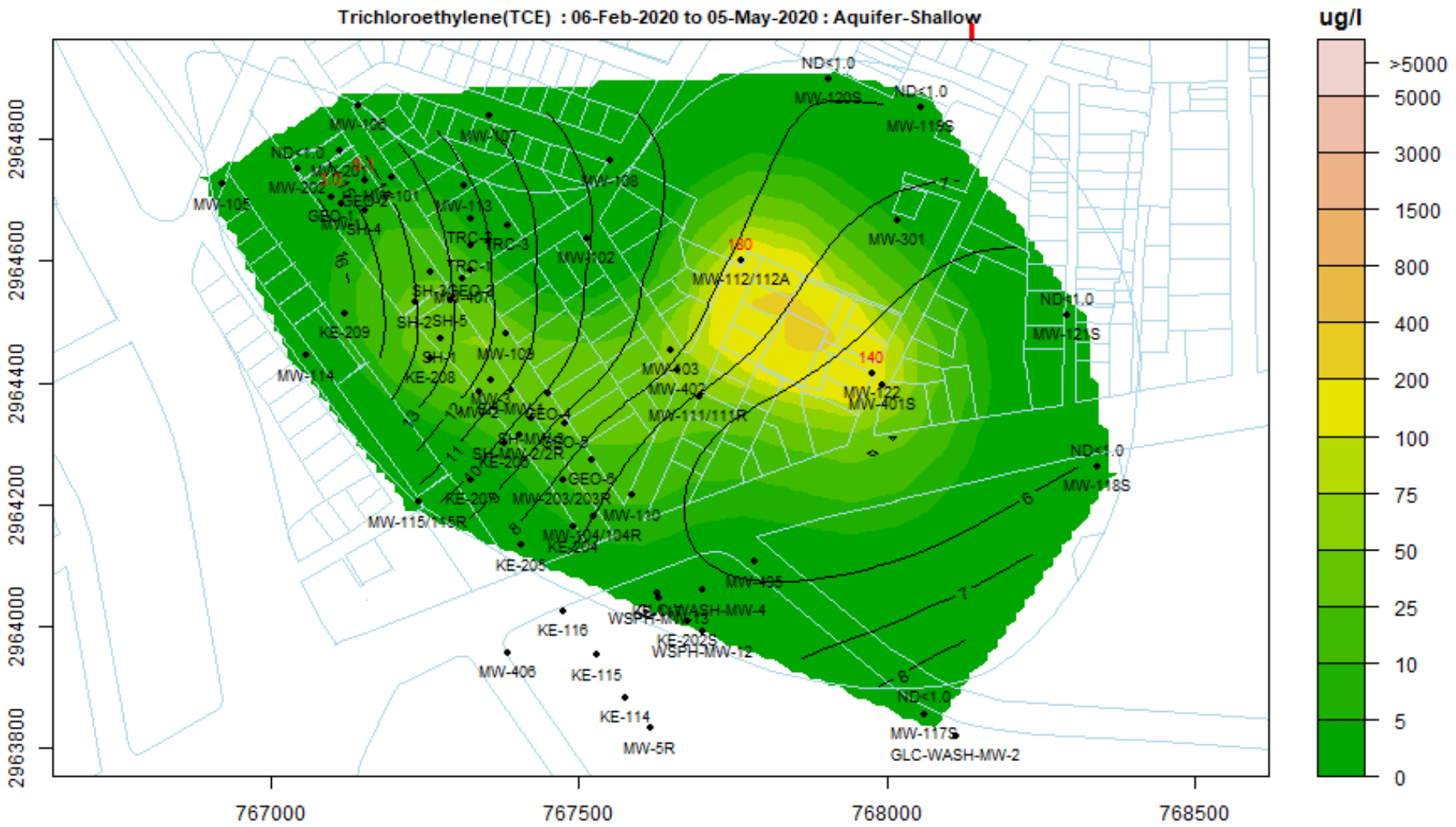
Trichloroethylene(TCE) : 06-Feb-2020 to 05-May-2020 : Aquifer-Shallow
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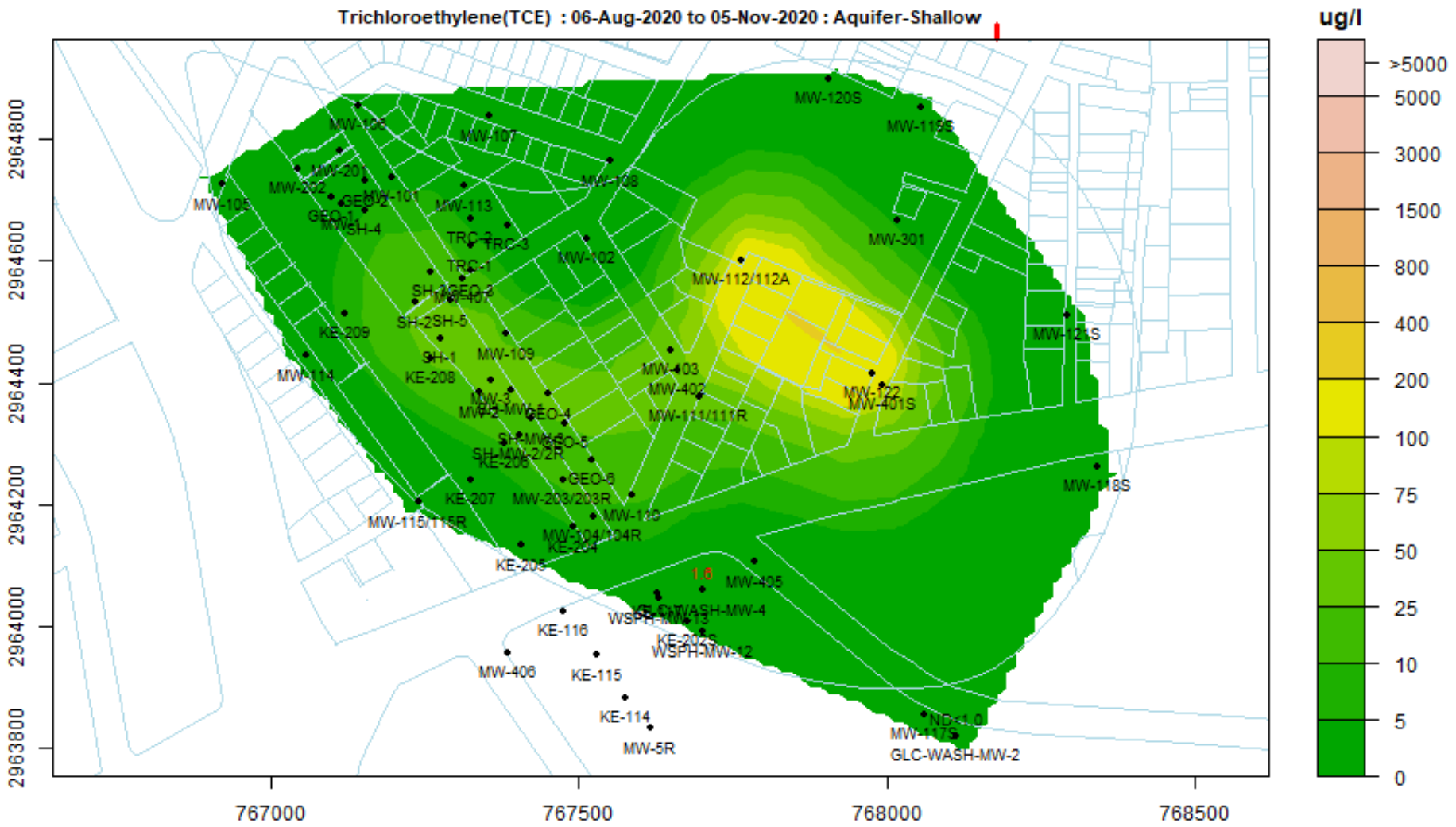
Trichloroethylene(TCE) : 06-Aug-2020 to 05-Nov-2020 : Aquifer-Shallow
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SH-MW-6
GEO-5
SH-MW-2/2R
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MW-110
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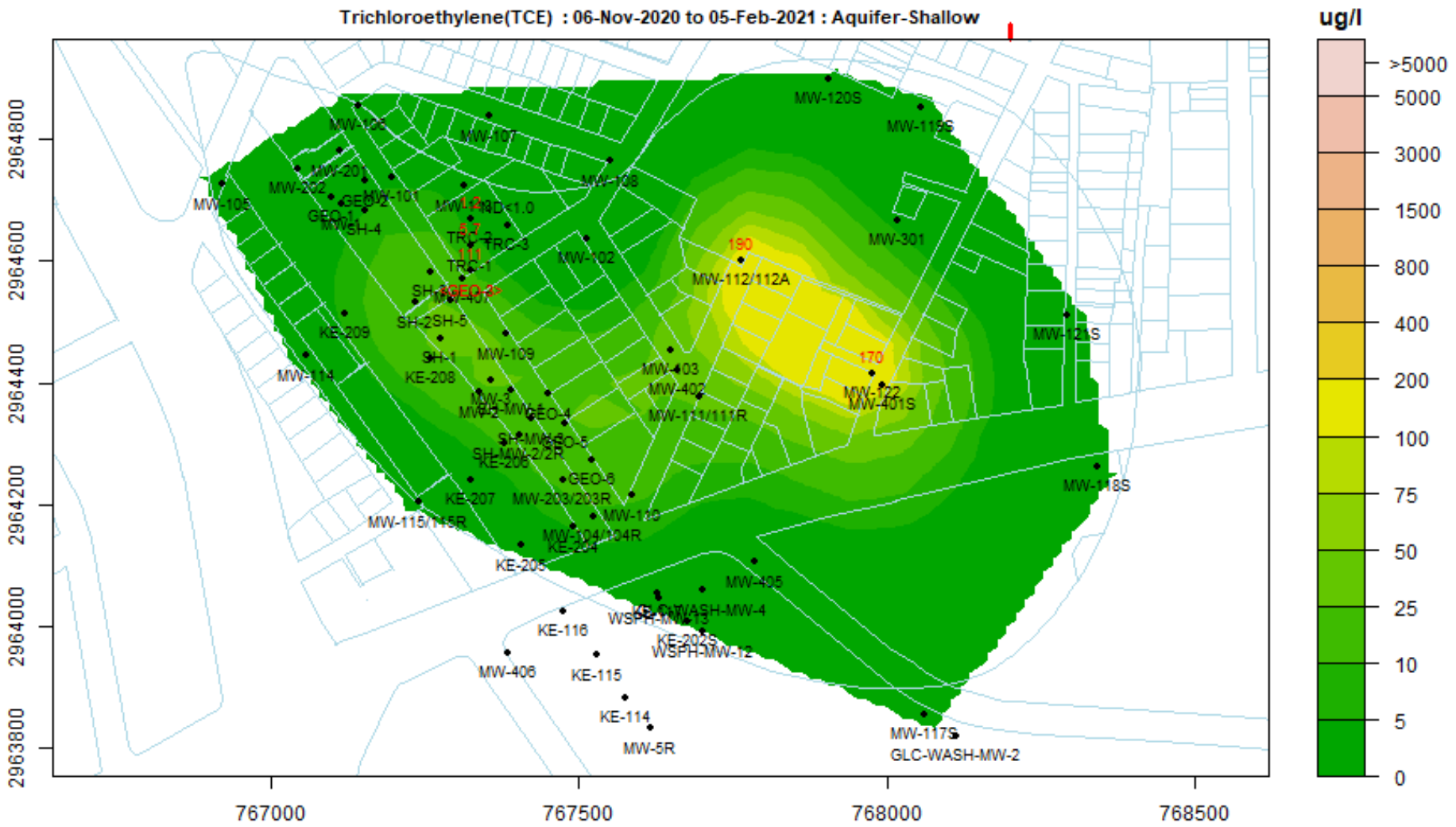
Trichloroethylene(TCE) : 06-Nov-2020 to 05-Feb-2021 : Aquifer-Shallow
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MW-203/203R
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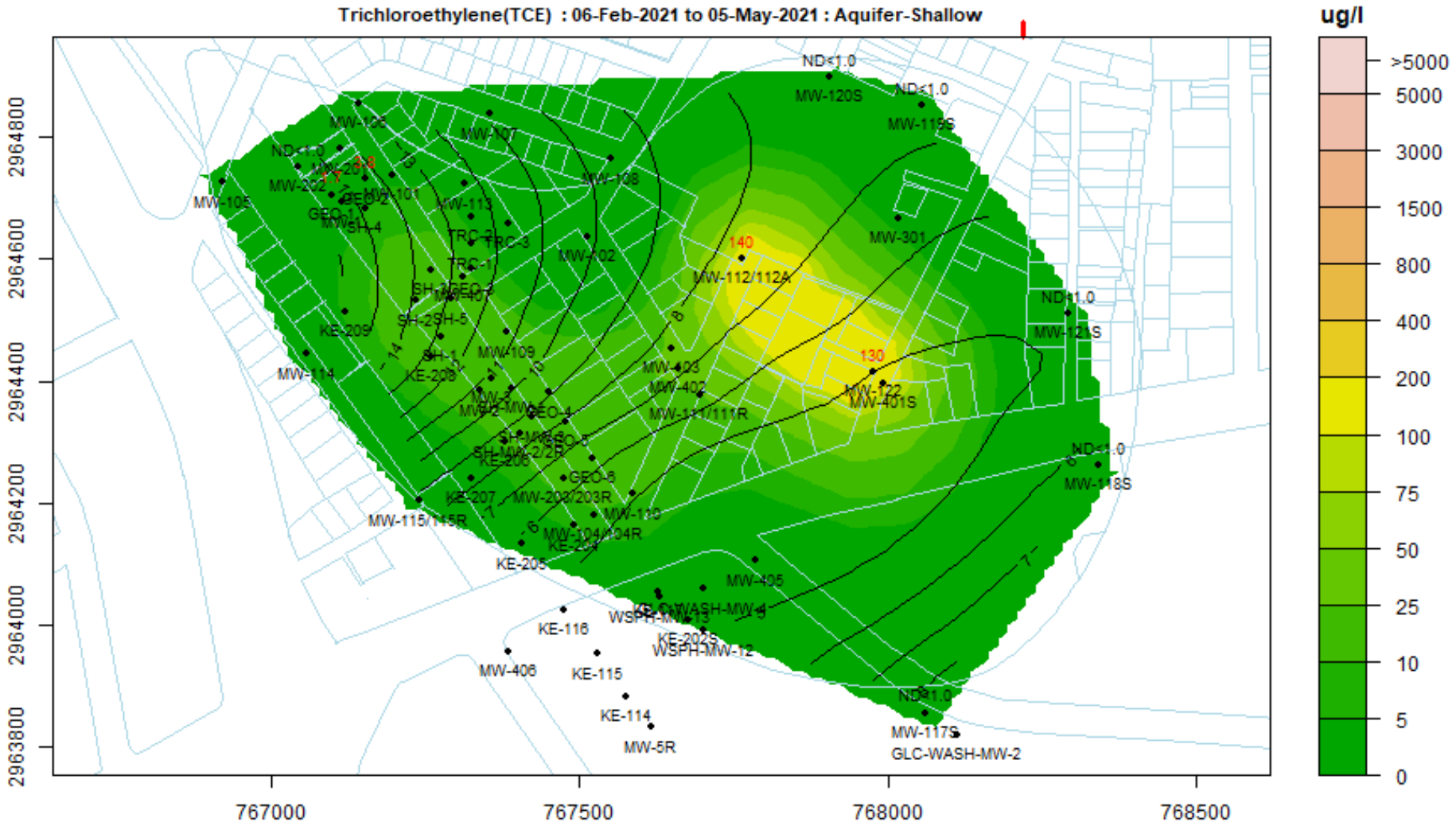
Trichloroethylene(TCE) : 06-Feb-2021 to 05-May-2021 : Aquifer-Shallow
ug/l
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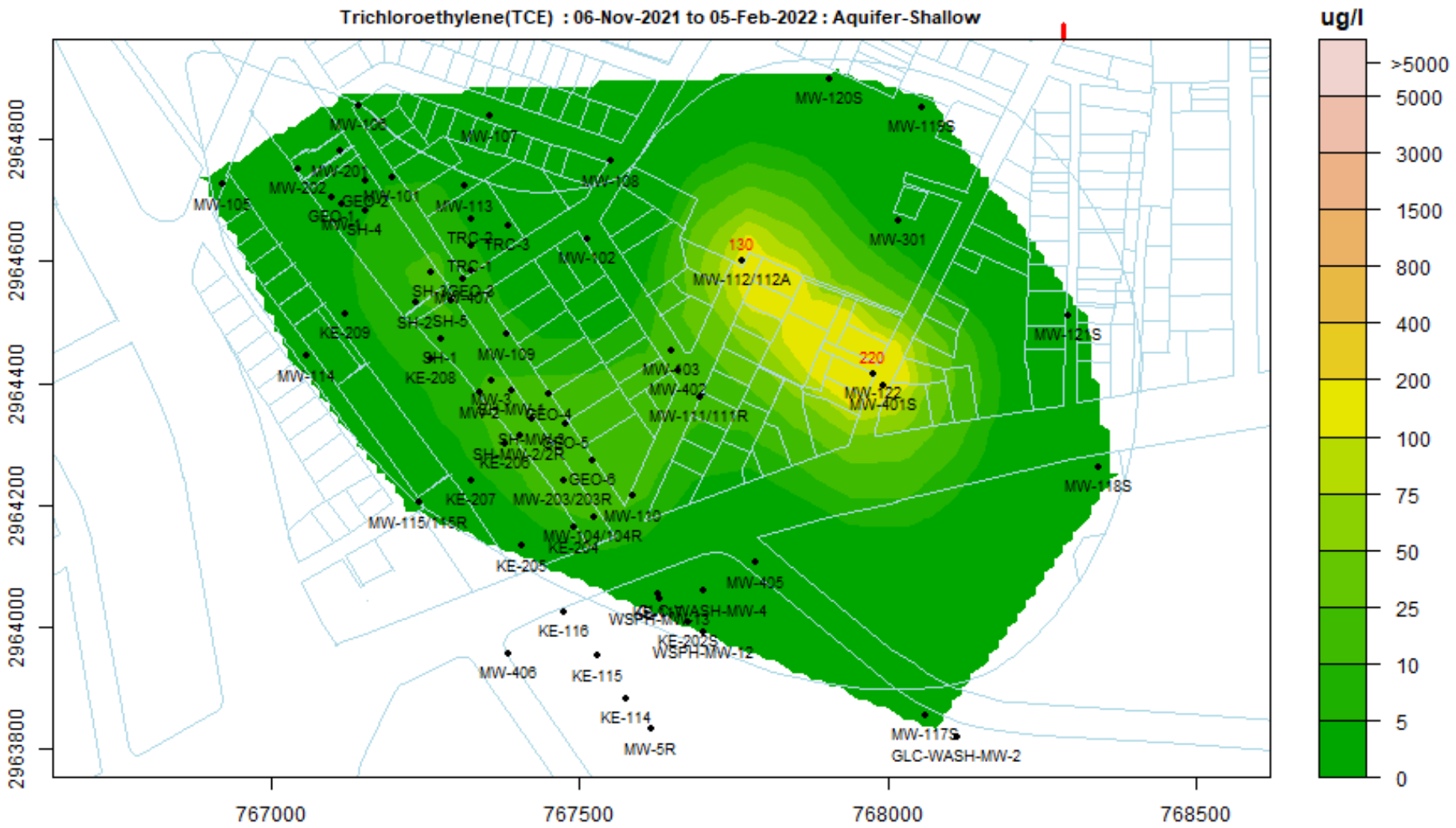
Trichloroethylene(TCE) : 06-Nov-2021 to 05-Feb-2022 : Aquifer-Shallow
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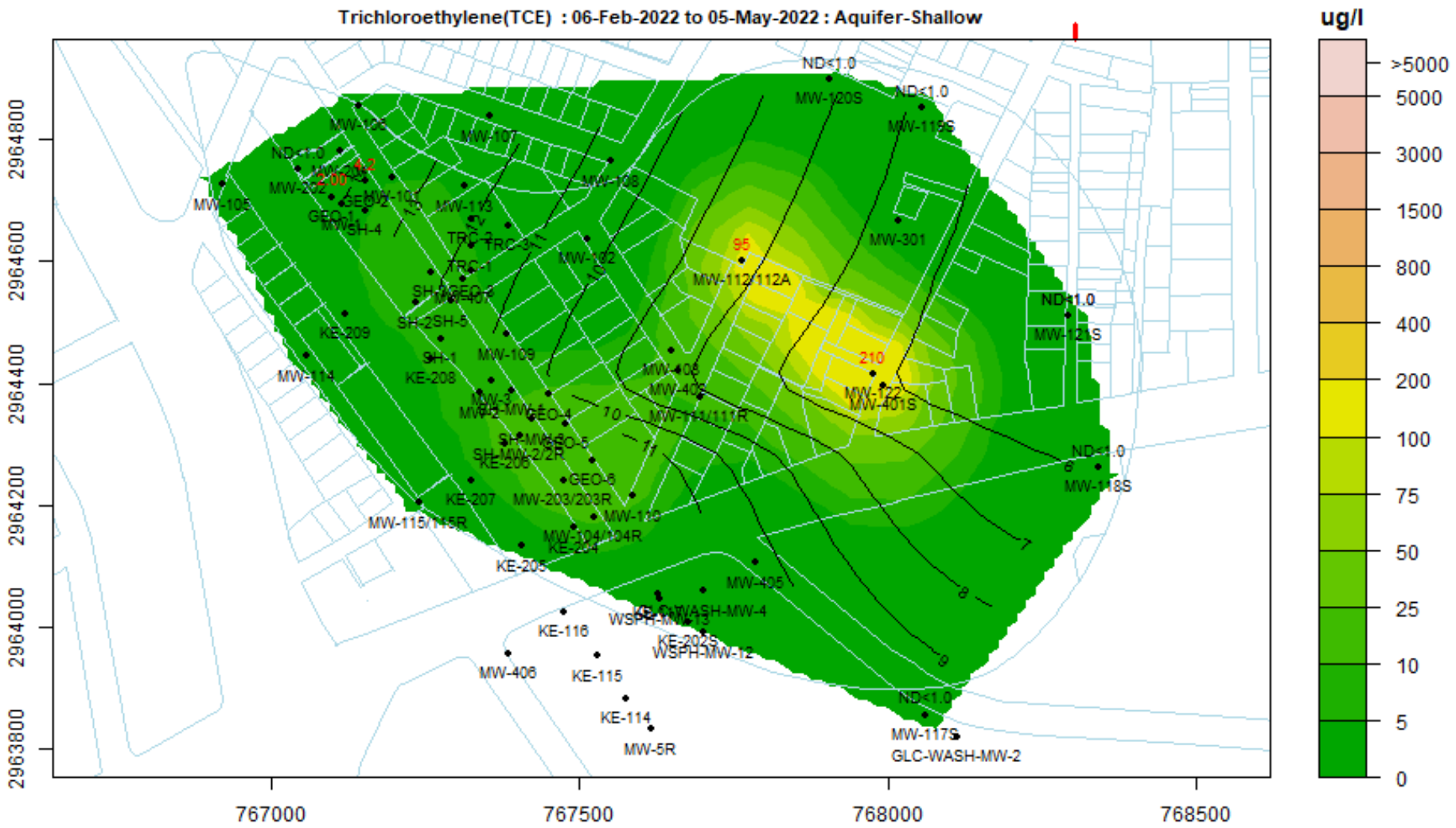
Trichloroethylene(TCE) : 06-Feb-2022 to 05-May-2022 : Aquifer-Shallow
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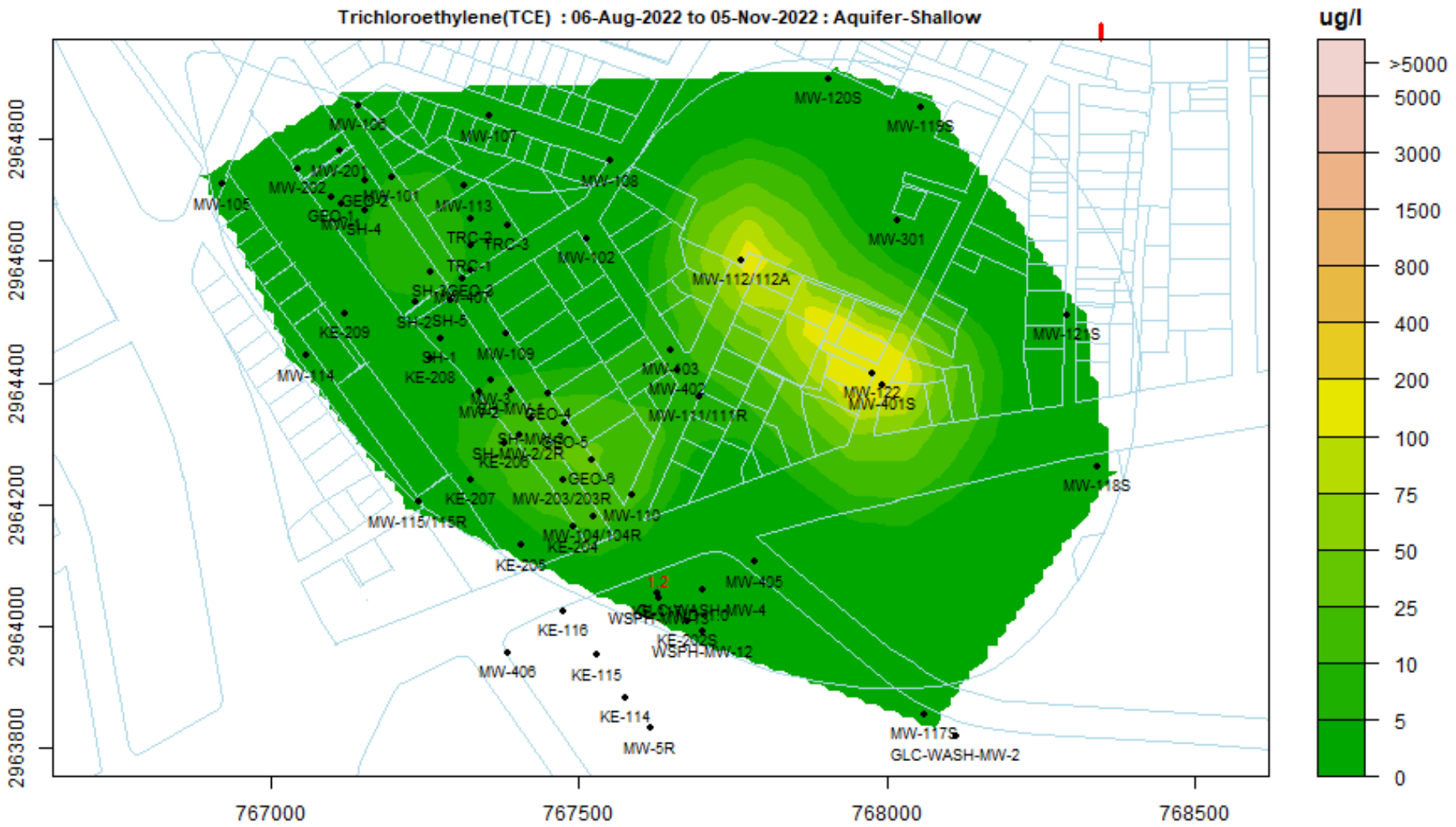
Trichloroethylene(TCE) : 06-Aug-2022 to 05-Nov-2022 : Aquifer-Shallow
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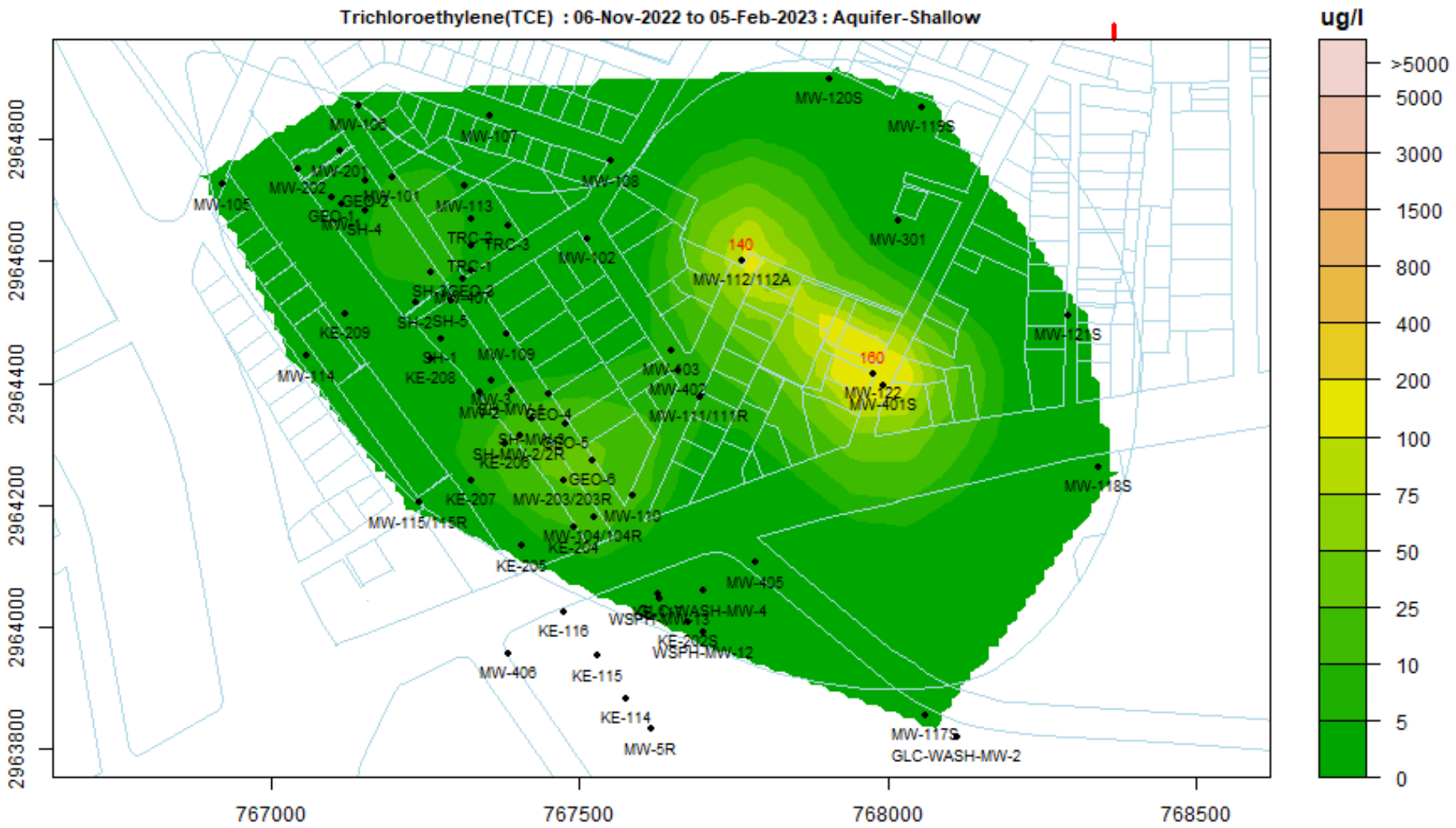
Trichloroethylene(TCE) : 06-Nov-2022 to 05-Feb-2023 : Aquifer-Shallow
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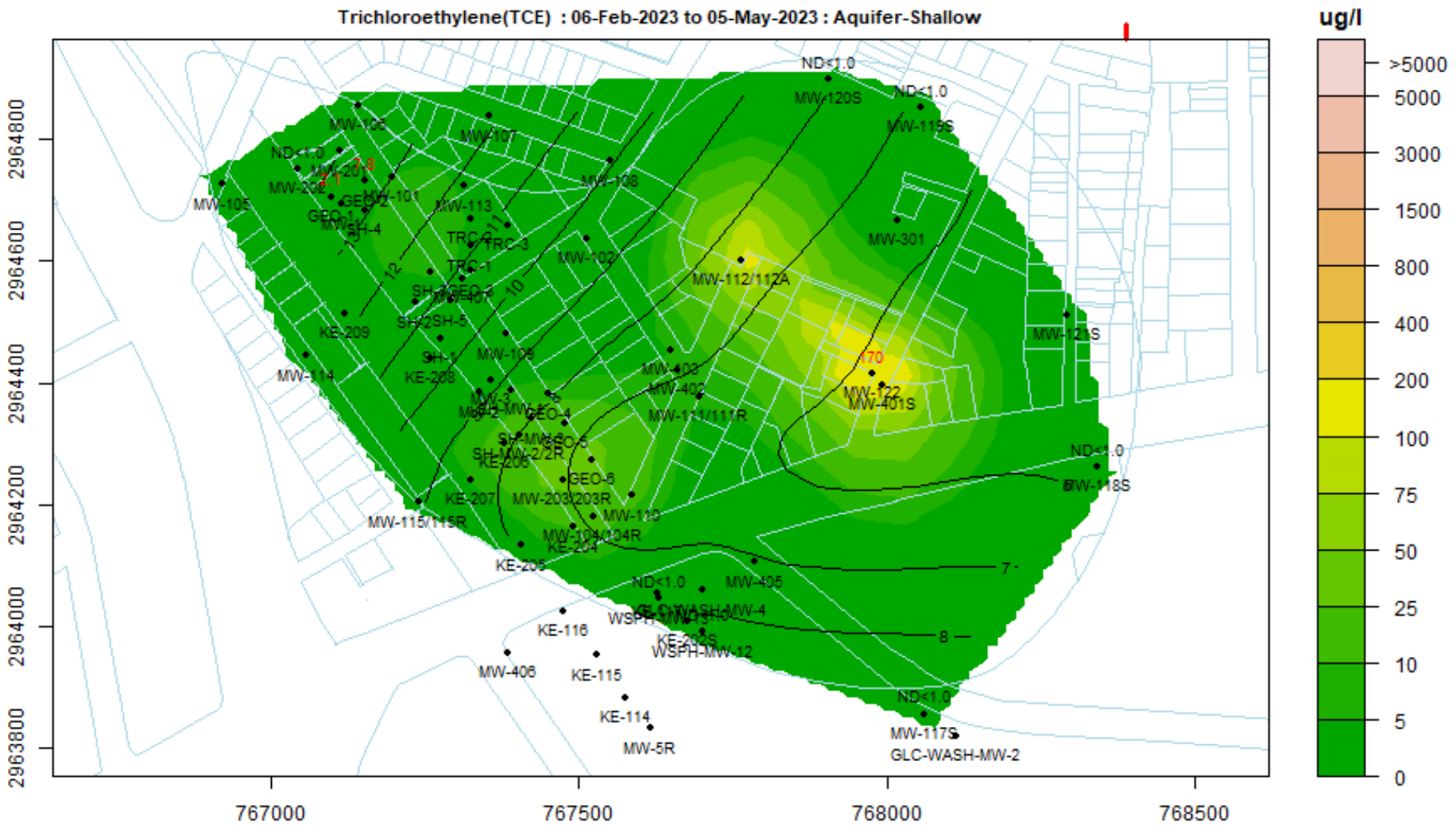
Trichloroethylene(TCE) : 06-Feb-2023 to 05-May-2023 : Aquifer-Shallow
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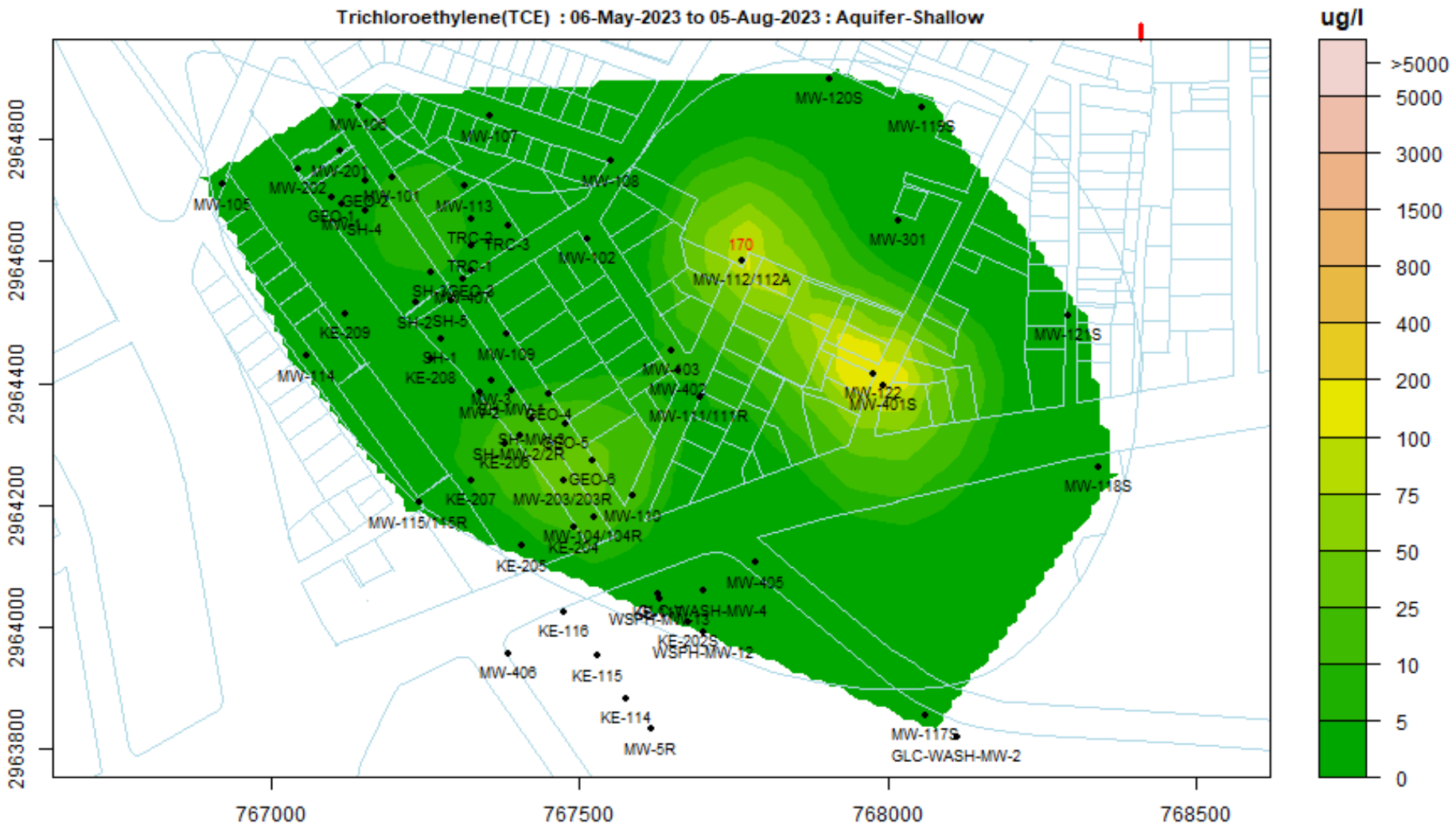
Trichloroethylene(TCE) : 06-May-2023 to 05-Aug-2023 : Aquifer-Shallow
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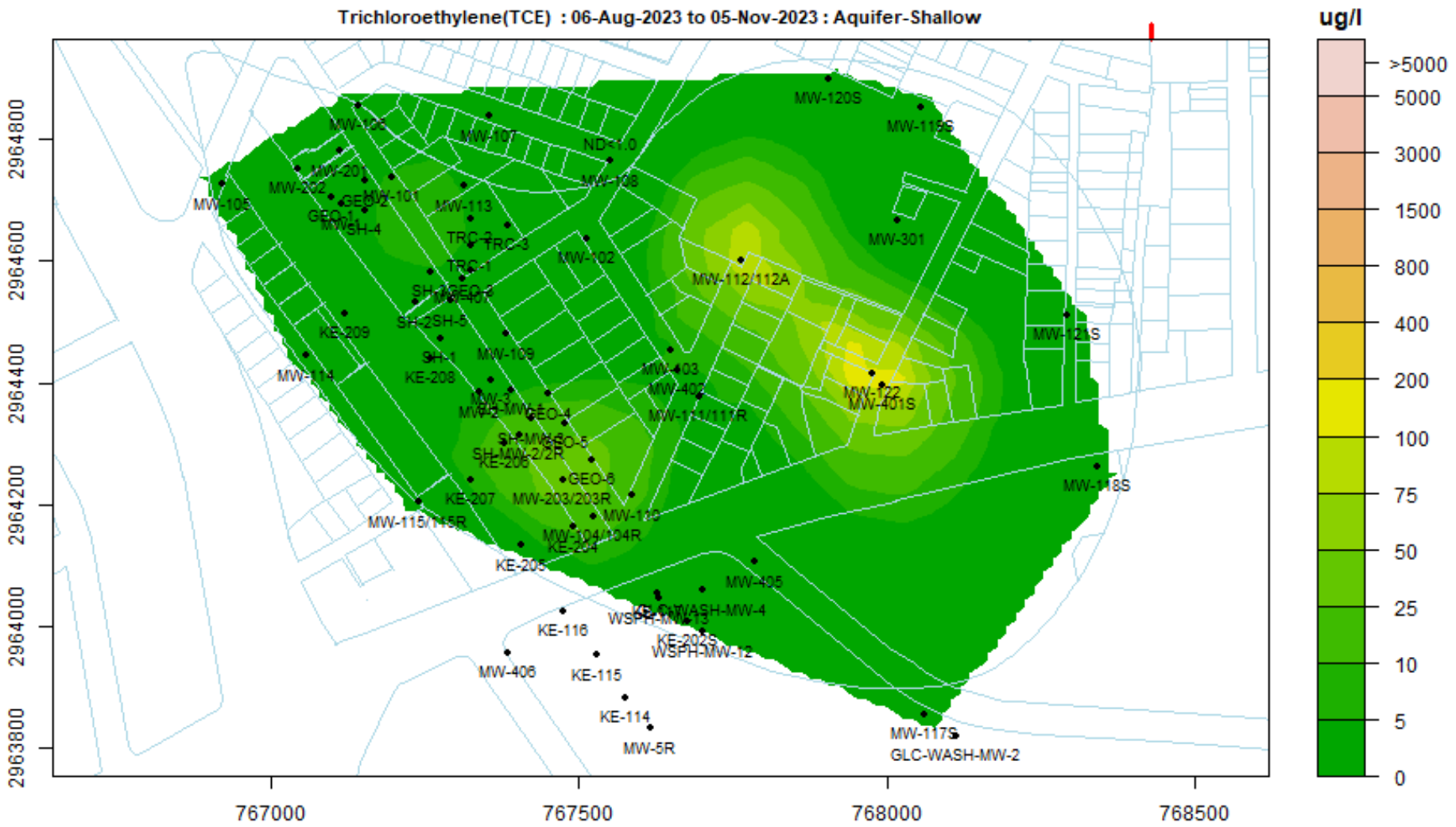
Trichloroethylene(TCE) : 06-Aug-2023 to 05-Nov-2023 : Aquifer-Shallow
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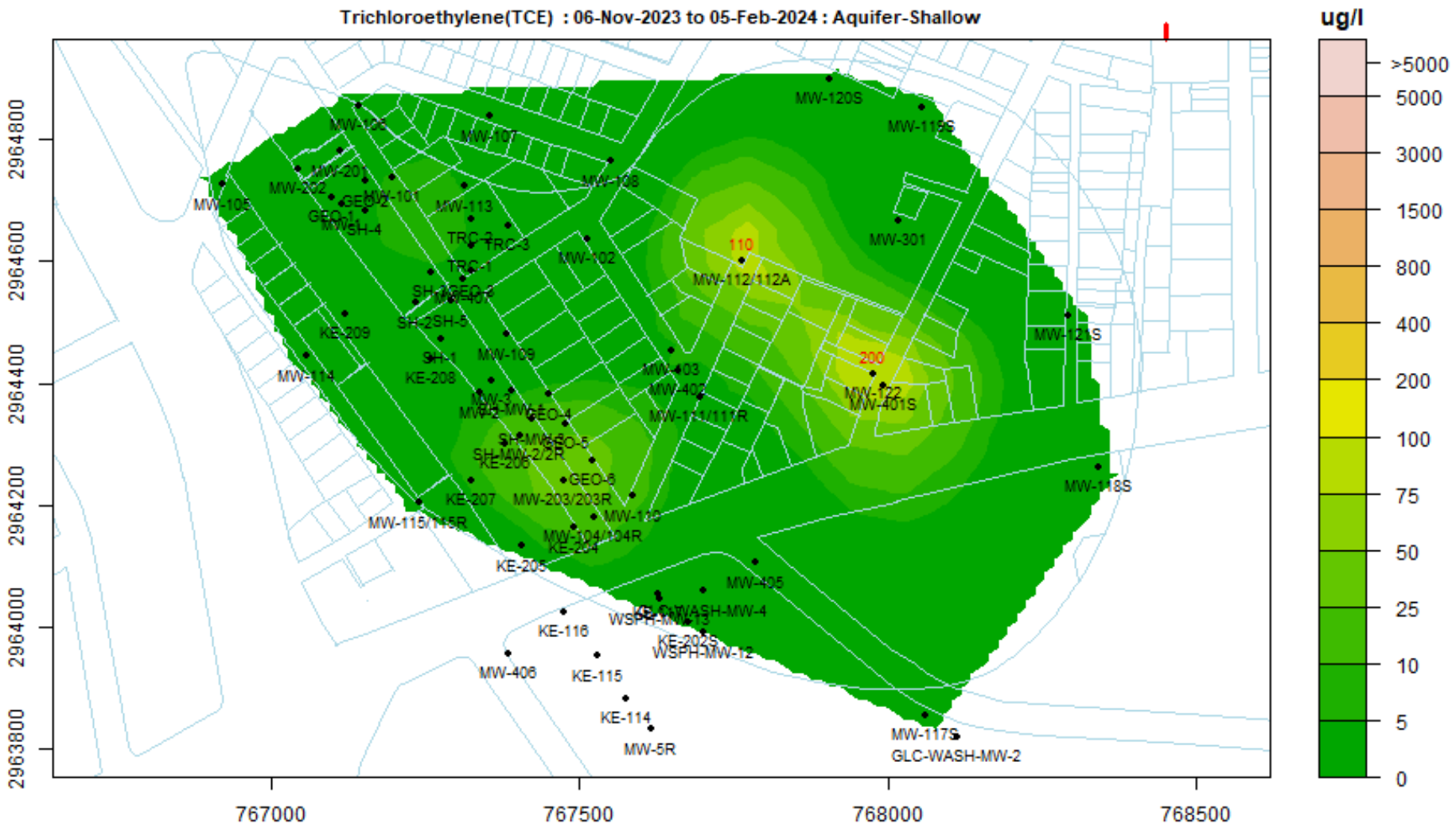
Trichloroethylene(TCE) : 06-Nov-2023 to 05-Feb-2024 : Aquifer-Shallow
ug/l
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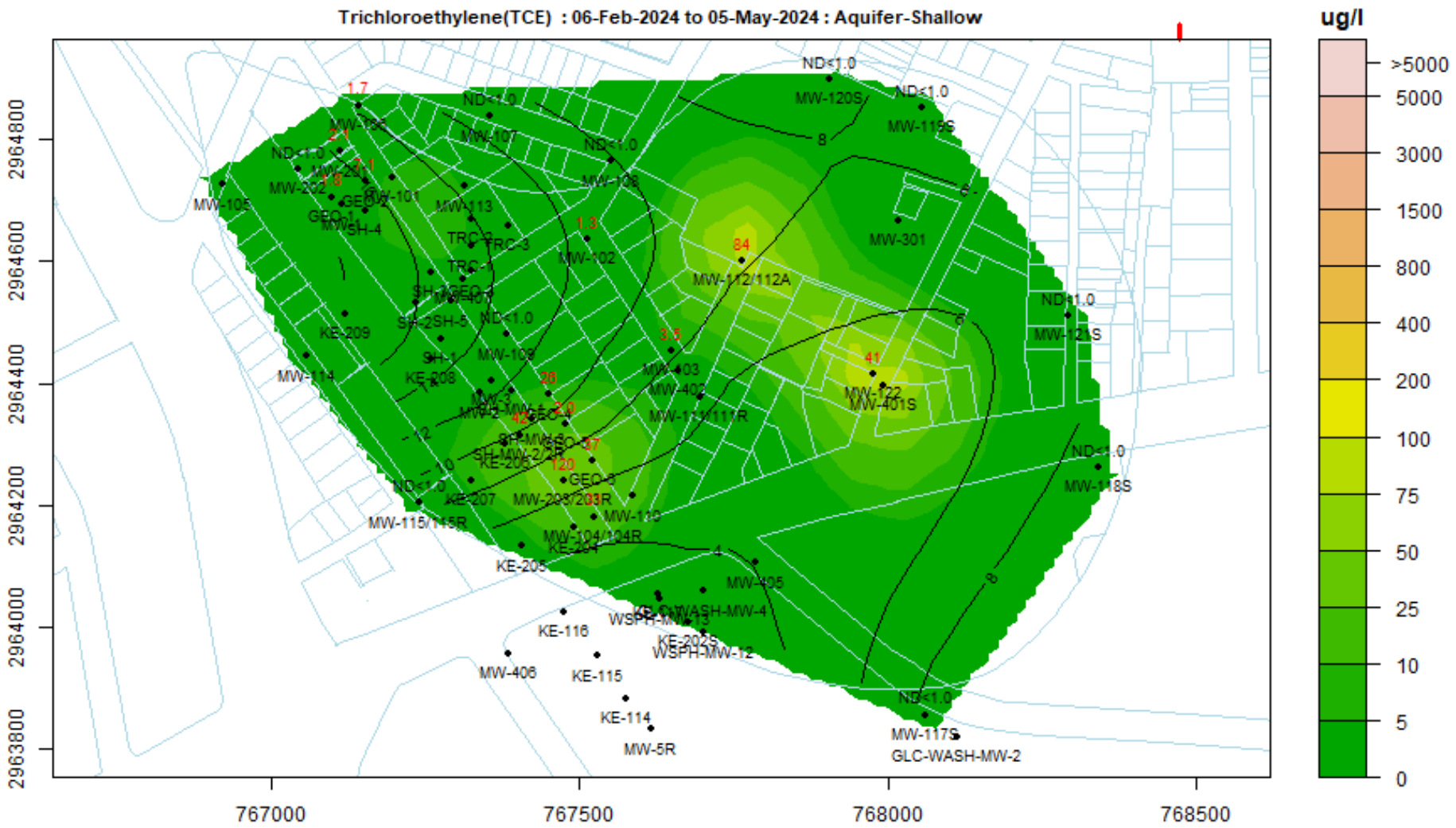
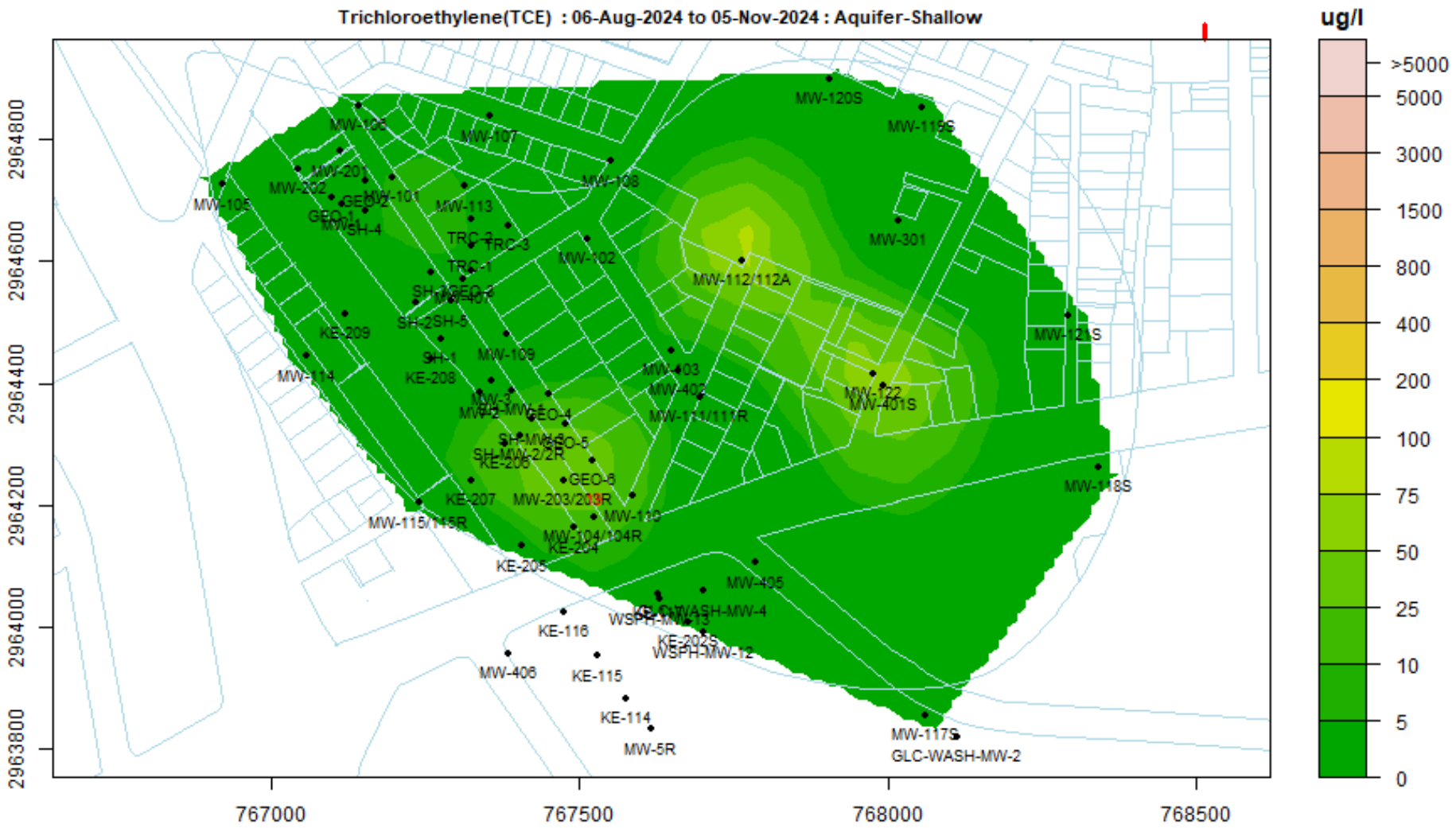
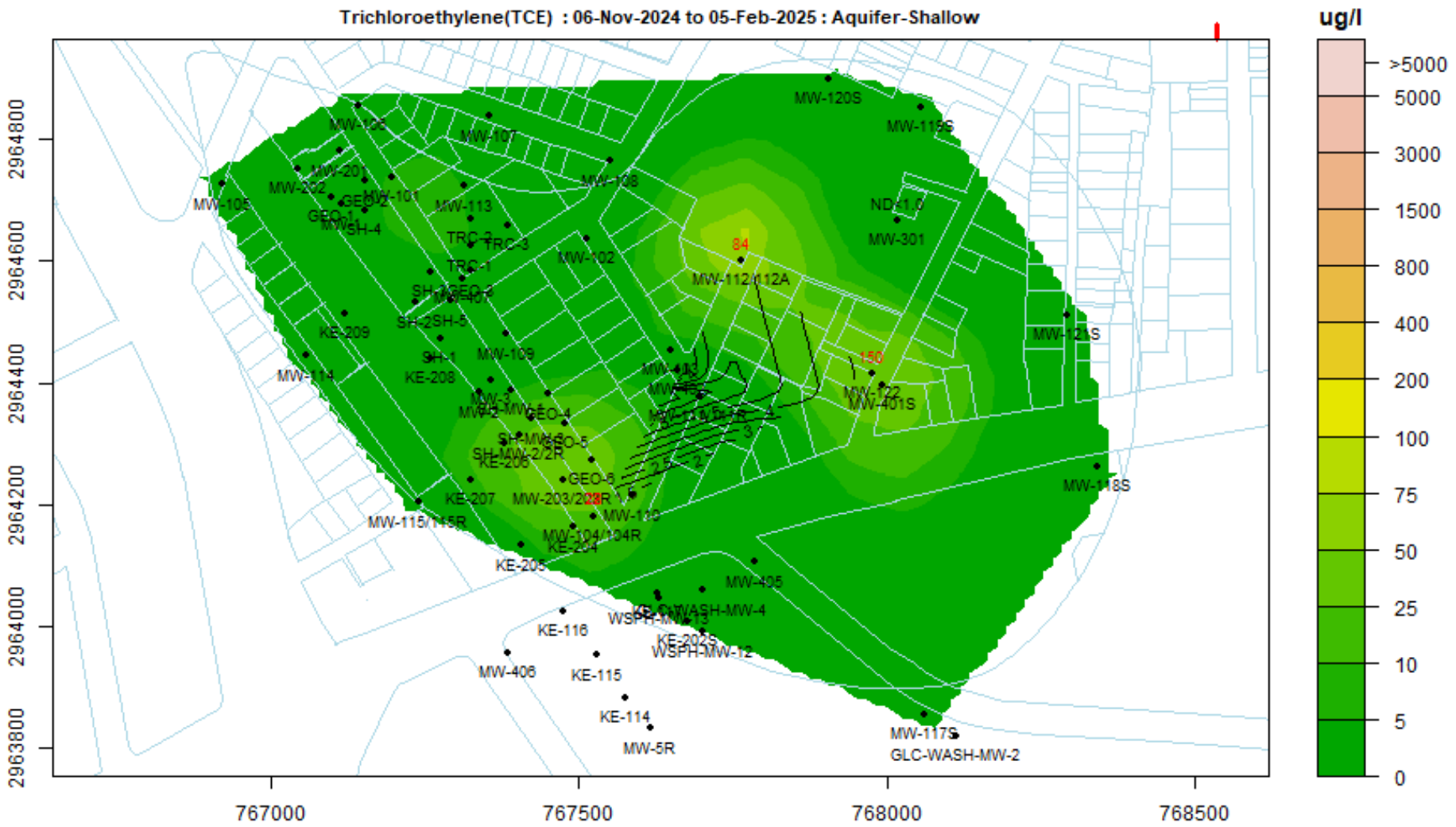
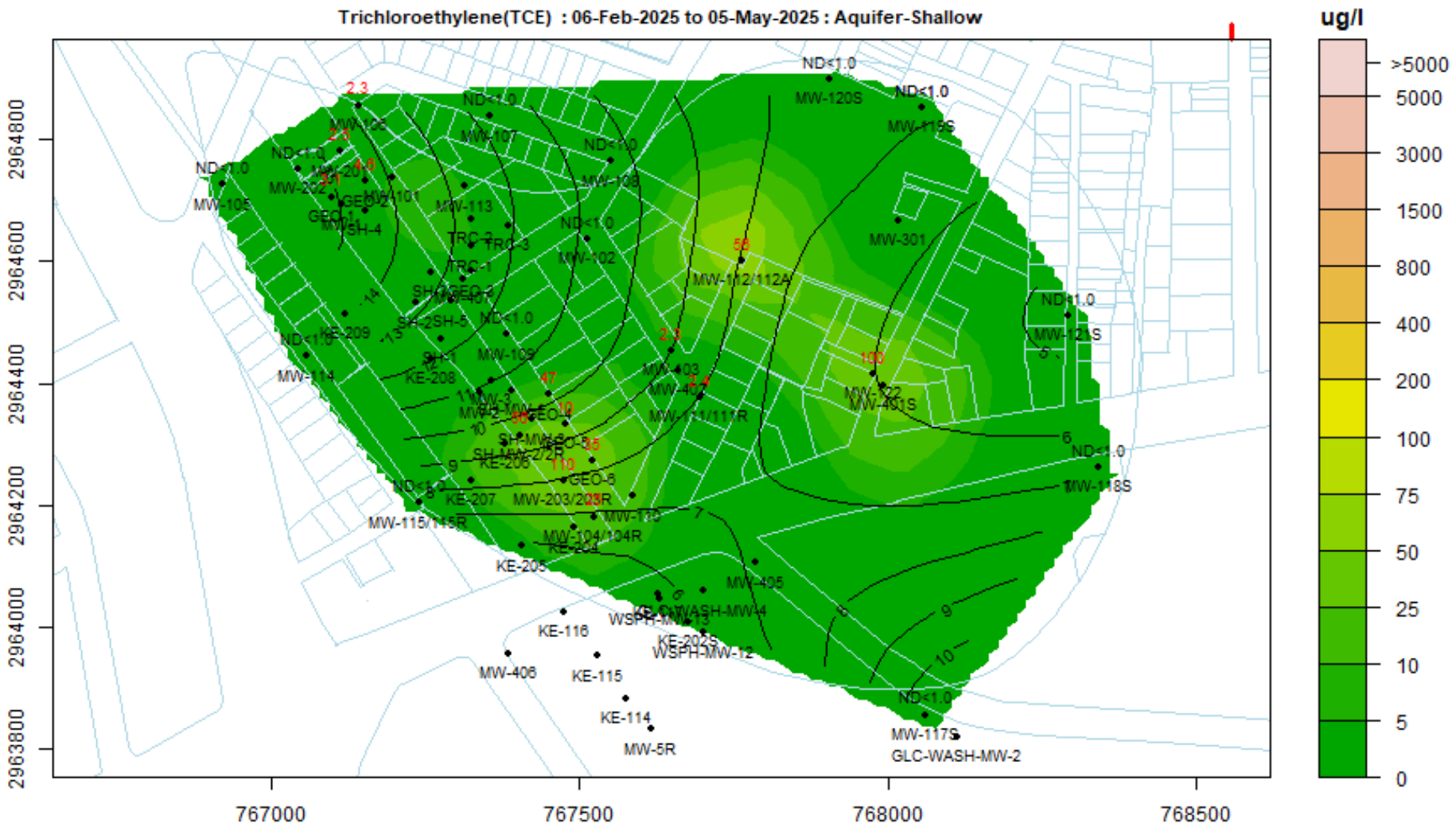
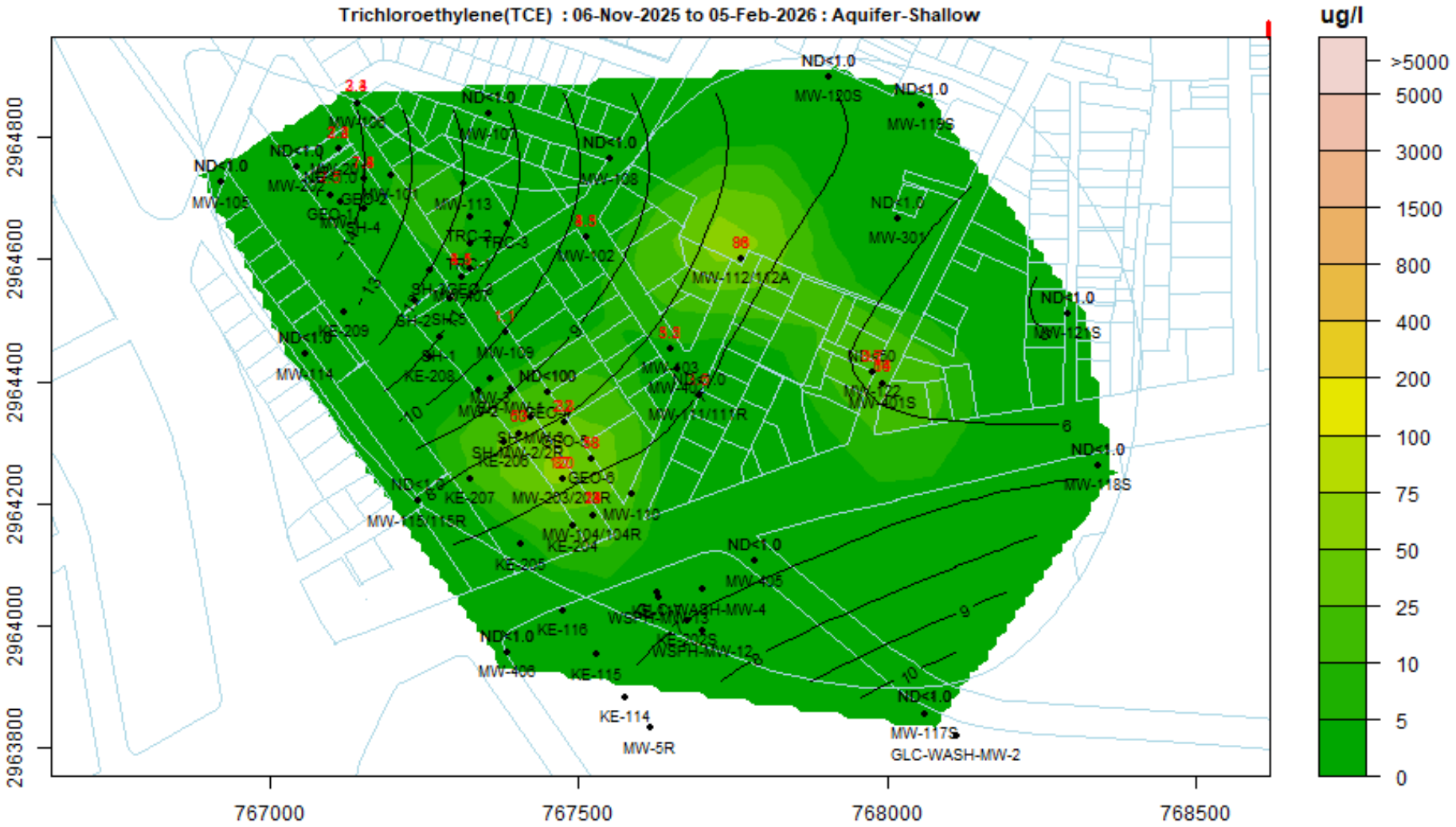
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
2964800
2964600
2964400
2964200
2964000
2963800
767000
767500
768000
768500
MW-120S
MW-119S
MW-301
MW-121S
MW-118S
MW-117S
GLC-WASH-MW-2
MW-112/112A
110
MW-122
MW-401S
200
MW-111/111R
MW-403
MW-402
MW-102
MW-108
MW-107
MW-106
MW-105
MW-202
MW-201
MW-101
GEO-2
GEO-1
SH-4
MW-113
TRC-2
TRC-3
TRC-1
SH-1GEO-3
SH-2SH-5
KE-209
SH-1
KE-208
MW-114
MW-109
MW-3
MW-2
GEO-4
SH-MW-6
GEO-5
SH-MW-2/2R
KE-206
GEO-6
KE-207
MW-203/203R
MW-110
MW-115/115R
MW-104/104R
KE-204
KE-205
MW-405
KE-CATWASH-MW-4
WSPH-MW-13
KE-116
KE-202S
WSPH-MW-12
MW-406
KE-115
KE-114
MW-5R

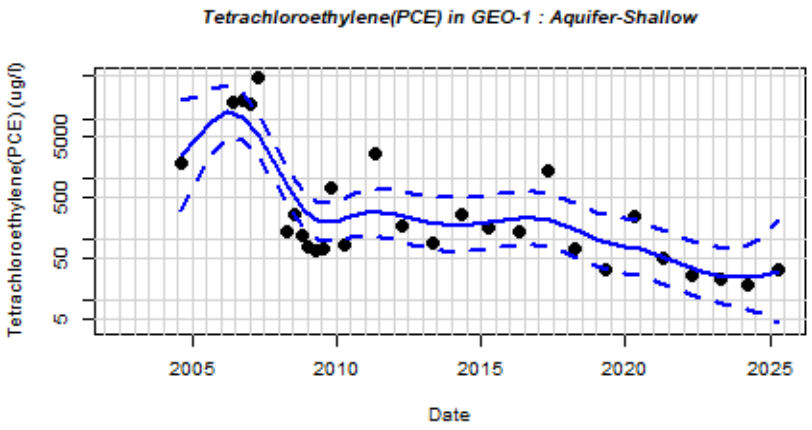

Trichloroethylene(TCE) : 06-Feb-2024 to 05-May-2024 : Aquifer-Shallow
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
2964800
2964600
2964400
2964200
2964000
2963800
767000
767500
768000
768500
ND<1.0
MW-120S
MW-119S
MW-301
MW-121S
MW-118S
MW-117S
GLC-WASH-MW-2
MW-112/112A
MW-122
MW-401S
MW-403
MW-402
MW-114/114R
MW-405
MW-102
MW-103
MW-104/104R
MW-115/115R
MW-203/203R
MW-113
MW-101
MW-107
MW-108
MW-105
MW-202
MW-114
KE-209
KE-208
KE-207
KE-206
KE-205
KE-204
KE-116
KE-115
KE-114
KE-202S
MW-406
MW-5R
WSPH-MW-12
WSPH-MW-13
GLC-WASH-MW-4
SH-1
SH-2SH-5
SH-MW-2/2R
SH-MW-6
TRC-1
TRC-2
TRC-3
GEO-1
GEO-2
GEO-3
GEO-4
1.7
2.1
2.4
2.6
1.3
84
3.5
41
26
42
3.0
67
120
33
8
6
12
10
4

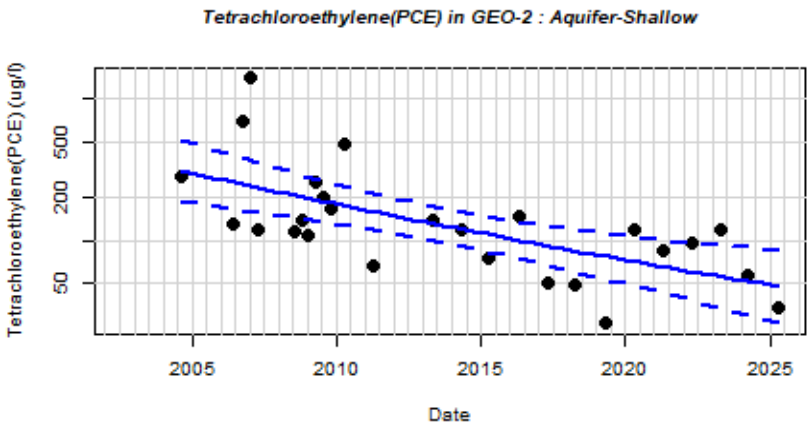

Trichloroethylene(TCE) : 06-Aug-2024 to 05-Nov-2024 : Aquifer-Shallow
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
2964800
2964600
2964400
2964200
2964000
2963800
767000
767500
768000
768500
MW-120S
MW-119S
MW-301
MW-112/112A
MW-121S
MW-122
MW-401S
MW-118S
MW-403
MW-407
MW-111/111R
MW-405
MW-117S
GLC-WASH-MW-2
MW-105
MW-107
MW-108
MW-113
MW-102
MW-109
MW-114
MW-115/115R
MW-104/104R
MW-406
MW-5R
KE-209
KE-208
KE-207
KE-206
KE-205
KE-204
KE-116
KE-115
KE-114
KE-202S
WSPH-MW-12
GEO-4
GEO-5
GEO-6
SH-MW-2/2R
MW-203/203R

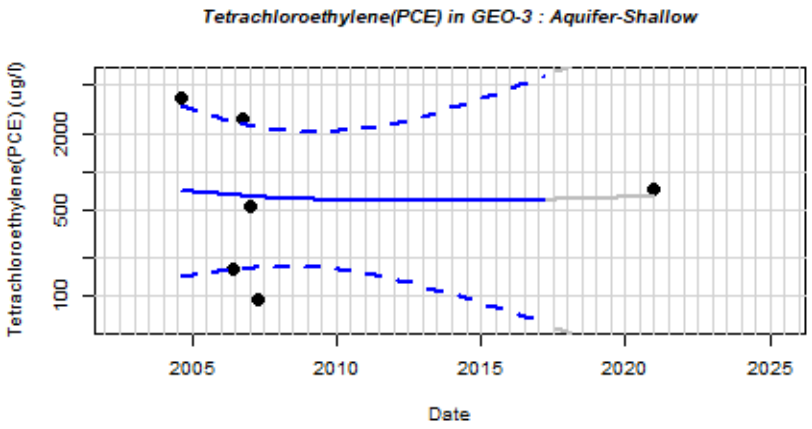

Trichloroethylene(TCE) : 06-Nov-2024 to 05-Feb-2025 : Aquifer-Shallow
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
2964800
2964600
2964400
2964200
2964000
2963800
767000
767500
768000
768500
MW-120S
MW-119S
MW-107
MW-108
MW-105
MW-202
MW-201
MW-101
GEO-2
GEO-1
MW-5H-4
MW-113
TRC-2
TRC-3
TRC-1
MW-102
ND<1.0
MW-301
84
MW-112/112A
SH-1GEO-6
SH-2SH-5
KE-209
MW-121S
SH-1
MW-109
MW-114
KE-208
150
MW-122
MW-401S
MW-3
MW-2
GEO-4
SH-MW-6
GEO-5
SH-MW-2/2R
KE-206
GEO-8
MW-118S
KE-207
MW-203/203R
MW-115/115R
MW-110
MW-104/104R
KE-204
KE-205
MW-405
KE-CATWASH-MW-4
WSPH-MW-13
KE-116
KE-202S
WSPH-MW-12
MW-406
KE-115
KE-114
MW-5R
MW-117S
GLC-WASH-MW-2

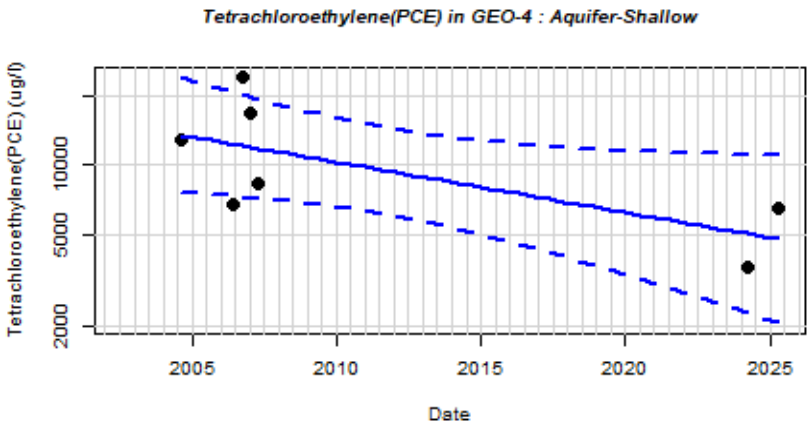

Trichloroethylene(TCE) : 06-Feb-2025 to 05-May-2025 : Aquifer-Shallow
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
2964800
2964600
2964400
2964200
2964000
2963800
767000
767500
768000
768500
ND<1.0
MW-120S
MW-119S
MW-301
MW-112/112A
MW-121S
MW-122
MW-401S
MW-118S
MW-117S
GLC-WASH-MW-2
MW-105
MW-107
MW-108
MW-113
MW-102
MW-114
MW-109
MW-403
MW-404
MW-111/111R
MW-115/115R
MW-104/104R
MW-405
MW-406
KE-116
KE-115
KE-114
MW-5R
KE-205
KE-207
KE-208
KE-209
KE-206
KE-202S
WSPH-MW-12
WSPH-MW-13
GLC-WASH-MW-4
GEO-6
SH-MW-2/2R
SH-2SH-5
TRC-1
TRC-3
GEO-1
WSH-4
MW-202
MW-201
MW-101
2.3
2.5
4.6
5.1
47
55
110
50
192
6
7
9
10
13
14
15

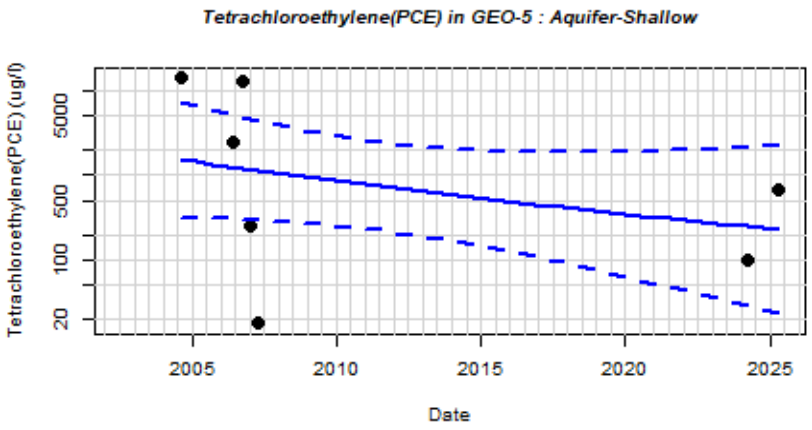

Trichloroethylene(TCE) : 06-Nov-2025 to 05-Feb-2026 : Aquifer-Shallow
ug/l
>5000
5000
3000
1500
800
400
200
100
75
50
25
10
5
0
2964800
2964600
2964400
2964200
2964000
2963800
767000
767500
768000
768500
ND<1.0
MW-120S
MW-119S
MW-301
MW-121S
MW-118S
MW-117S
GLC-WASH-MW-2
MW-105
MW-107
MW-108
MW-113
MW-102
MW-112/112A
MW-114
MW-109
MW-111/111R
MW-104/104R
MW-115/115R
MW-116
MW-400
KE-114
MW-5R
KE-115
KE-116
KE-204
KE-205
KE-206
KE-207
KE-208
KE-209
GEO-6
GEO-7
GEO-8
SH-1
SH-2/2R
SH-2SHC3
TRC-1
TRC-2
TRC-3
WSPH-MW-4
WSPH-MW-12
ND<100

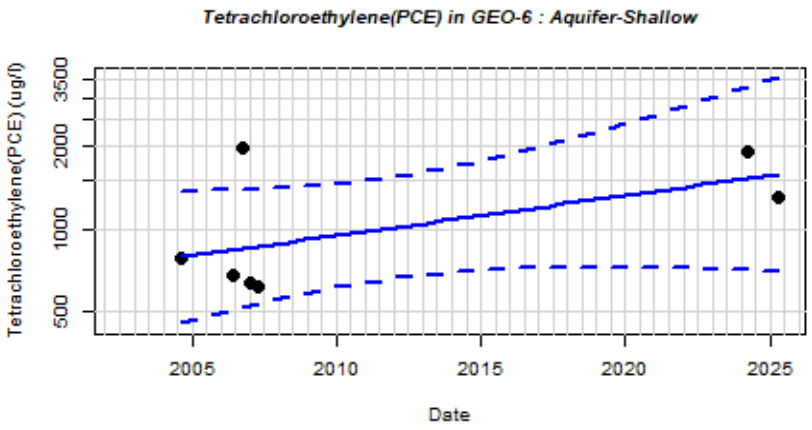

Tetrachloroethylene(PCE) in GEO-1 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
5
50
500
5000
2005
2010
2015
2020
2025
Date

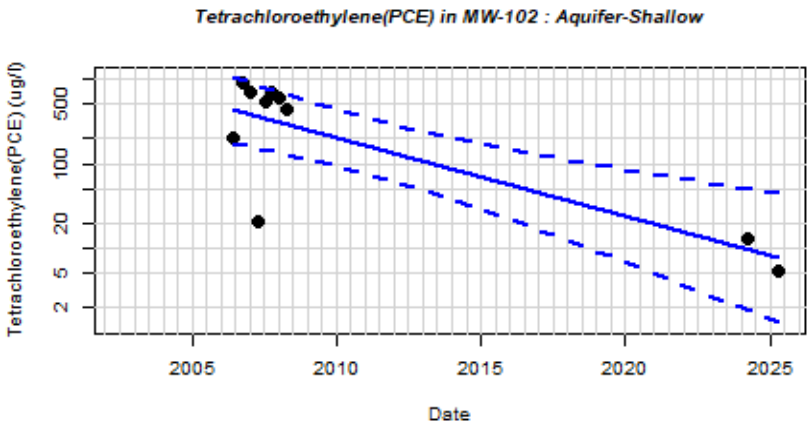

Tetrachloroethylene(PCE) in GEO-2 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
50
200
500
2005
2010
2015
2020
2025
Date

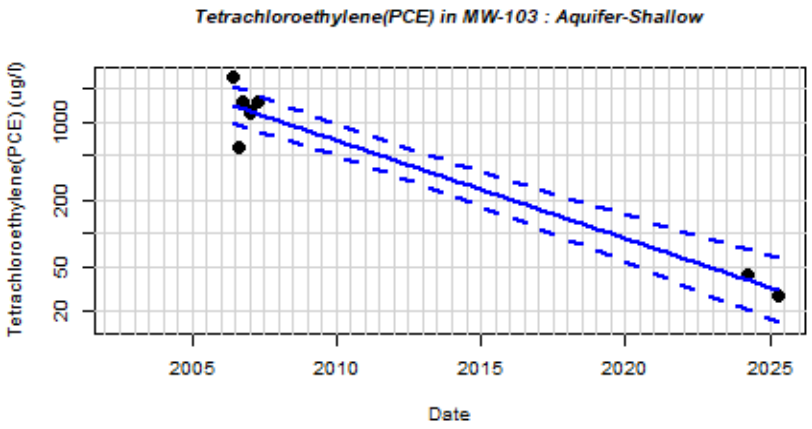

Tetrachloroethylene(PCE) in GEO-3 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
100
500
2000
2005
2010
2015
2020
2025
Date

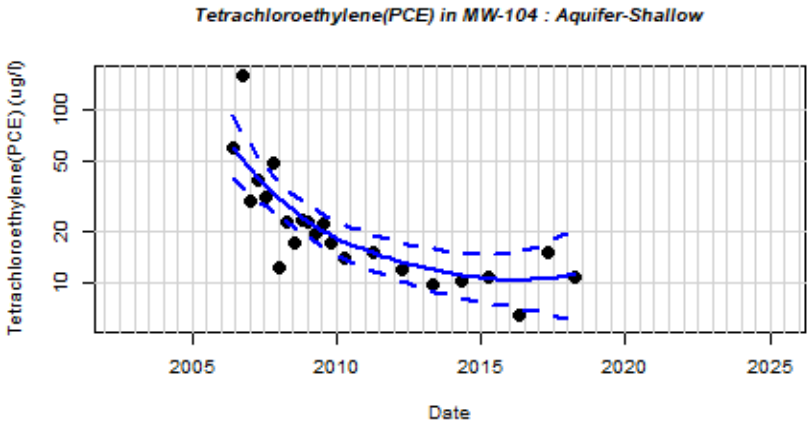

Tetrachloroethylene(PCE) in GEO-4 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
2000
5000
10000
2005
2010
2015
2020
2025
Date

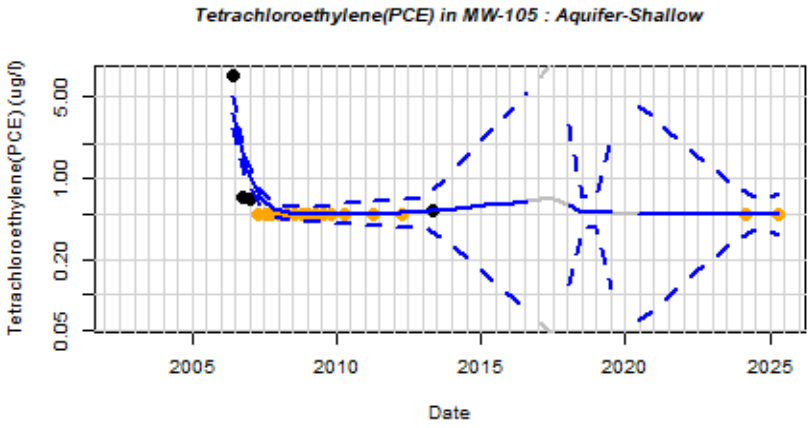

Tetrachloroethylene(PCE) in GEO-5 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
20
100
500
5000
2005
2010
2015
2020
2025
Date

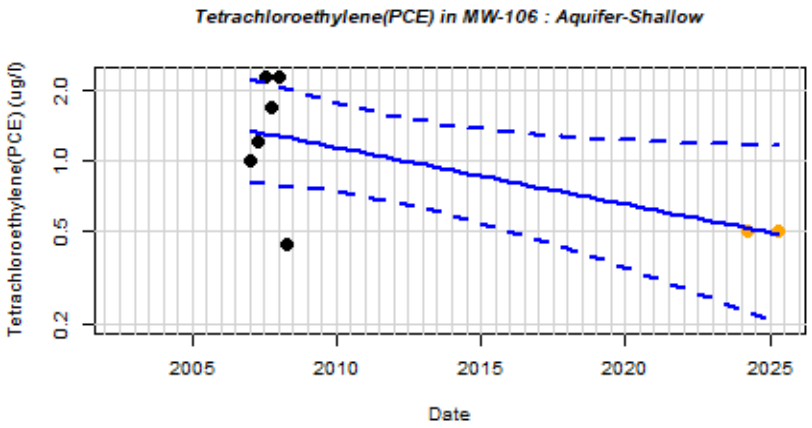

Tetrachloroethylene(PCE) in GEO-6 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
500
1000
2000
3500
2005
2010
2015
2020
2025
Date

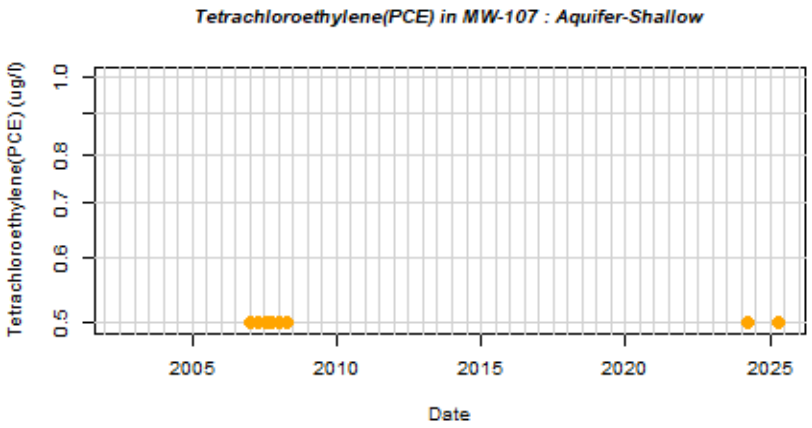

Tetrachloroethylene(PCE) in MW-102 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
2
5
20
100
500
2005
2010
2015
2020
2025
Date

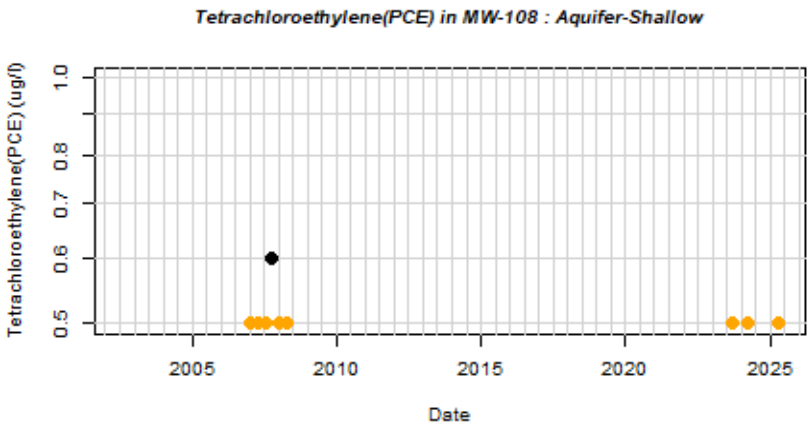

Tetrachloroethylene(PCE) in MW-103 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
20
50
200
1000
2005
2010
2015
2020
2025
Date

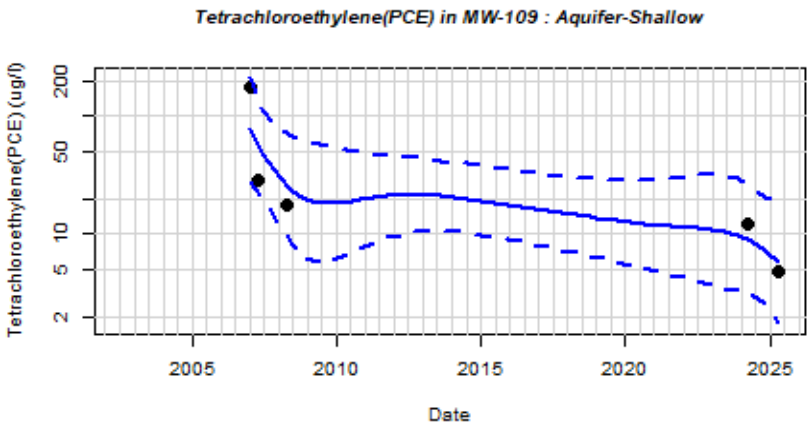

Tetrachloroethylene(PCE) in MW-104 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
10
20
50
100
2005
2010
2015
2020
2025
Date

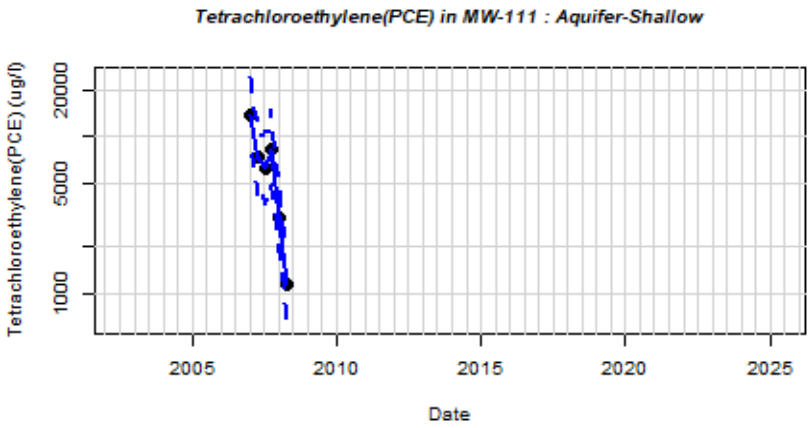

Tetrachloroethylene(PCE) in MW-105 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
0.05
0.20
1.00
5.00
2005
2010
2015
2020
2025
Date

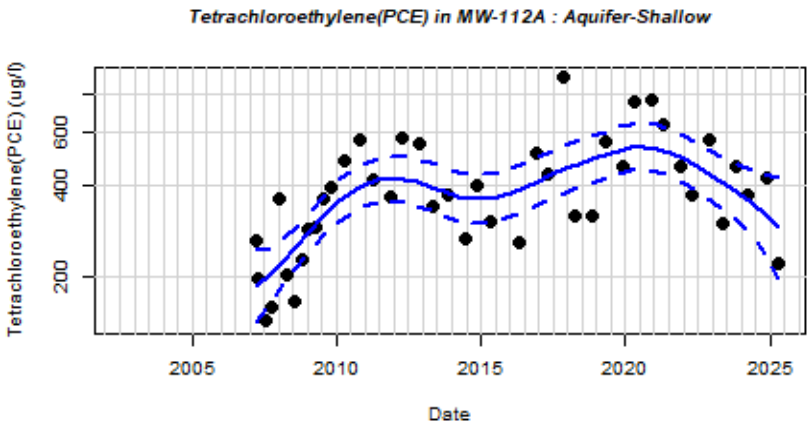

Tetrachloroethylene(PCE) in MW-106 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
0.2
0.5
1.0
2.0
2005
2010
2015
2020
2025
Date

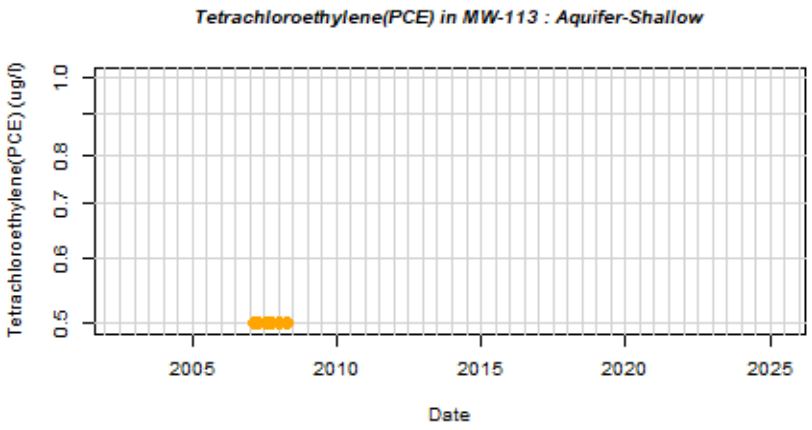

Tetrachloroethylene(PCE) in MW-107 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

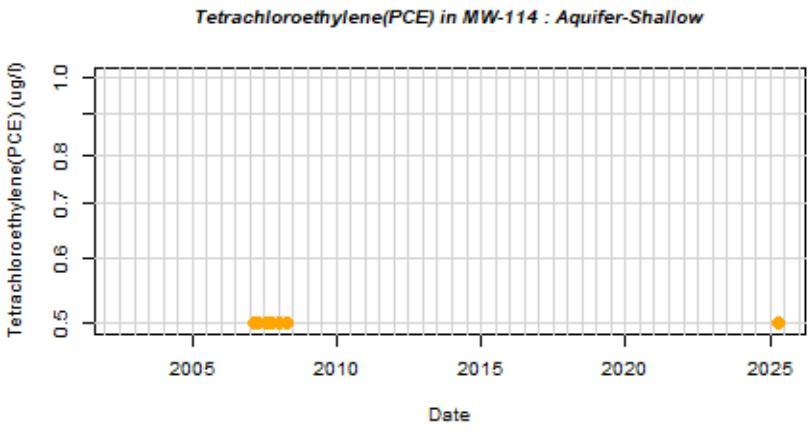

Tetrachloroethylene(PCE) in MW-108 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

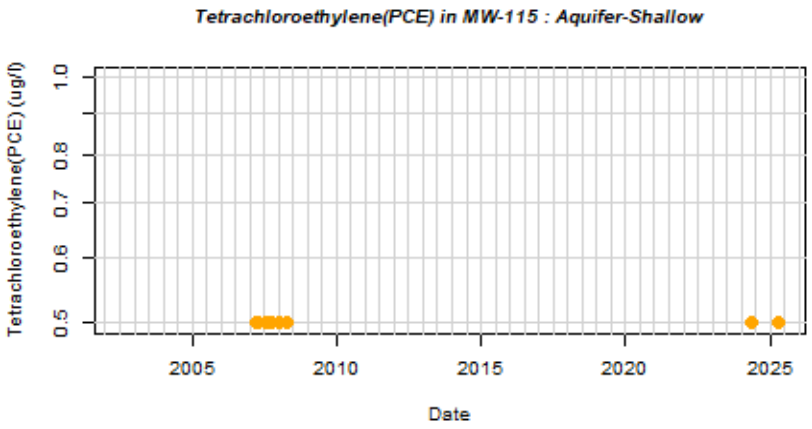

Tetrachloroethylene(PCE) in MW-109 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
2
5
10
50
200
2005
2010
2015
2020
2025
Date

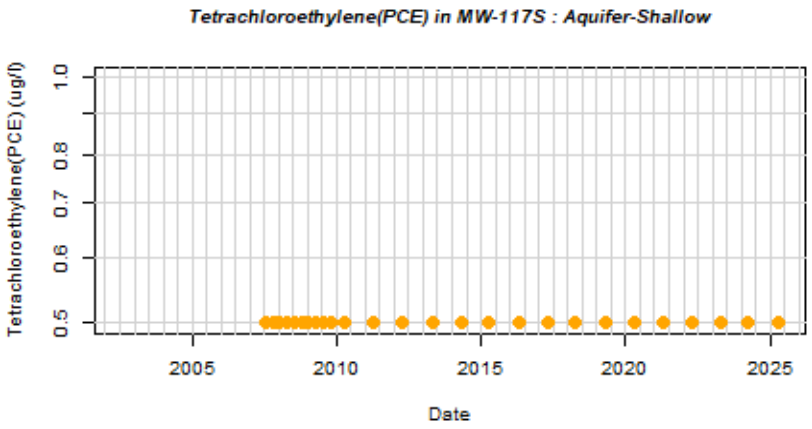

Tetrachloroethylene(PCE) in MW-111 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
1000
5000
20000
2005
2010
2015
2020
2025
Date

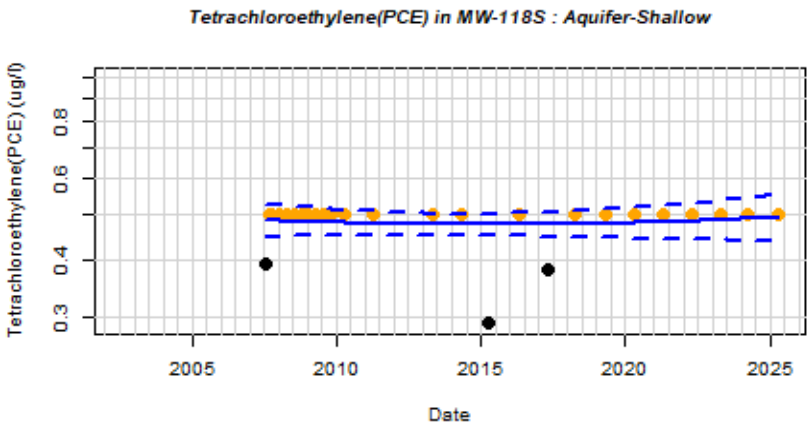

Tetrachloroethylene(PCE) in MW-112A : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
200
400
600
2005
2010
2015
2020
2025
Date

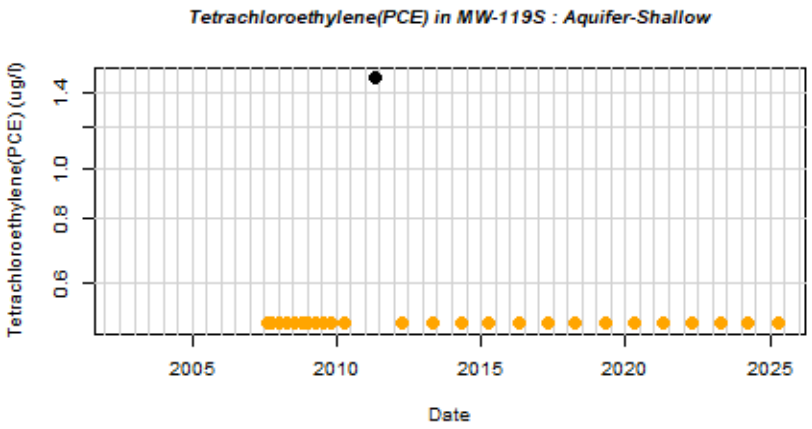

Tetrachloroethylene(PCE) in MW-113 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

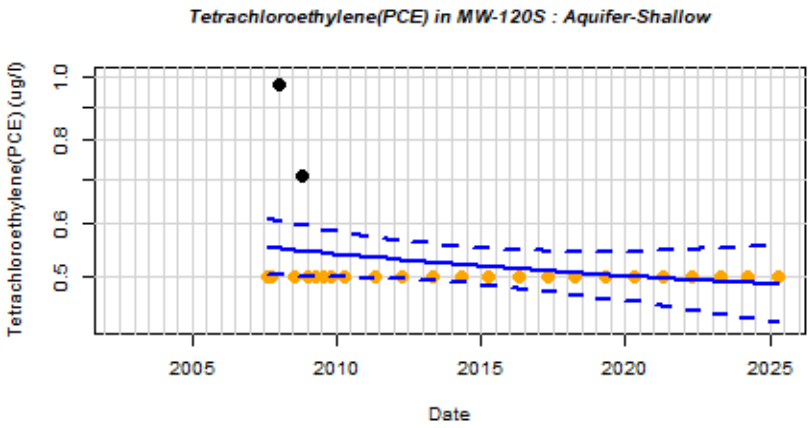

Tetrachloroethylene(PCE) in MW-114 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

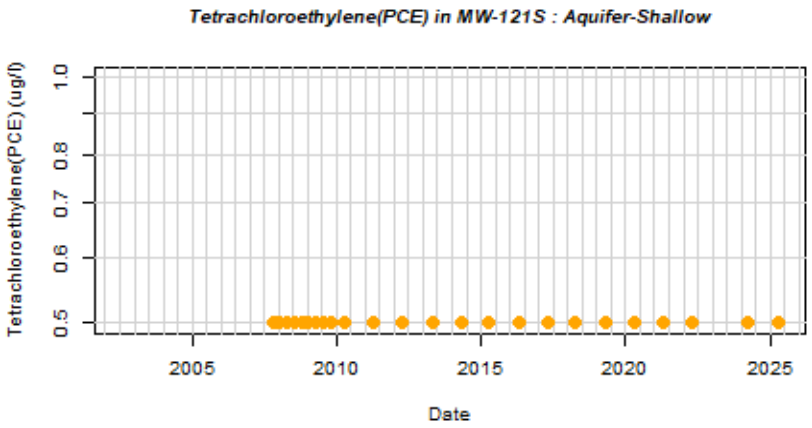

Tetrachloroethylene(PCE) in MW-115 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

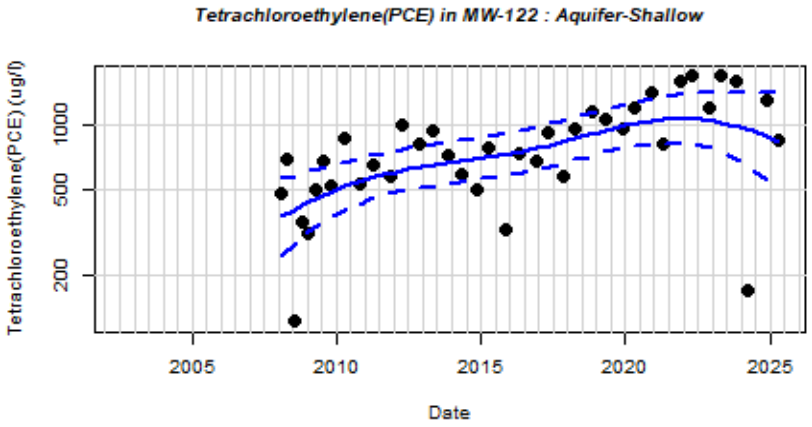

Tetrachloroethylene(PCE) in MW-117S : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

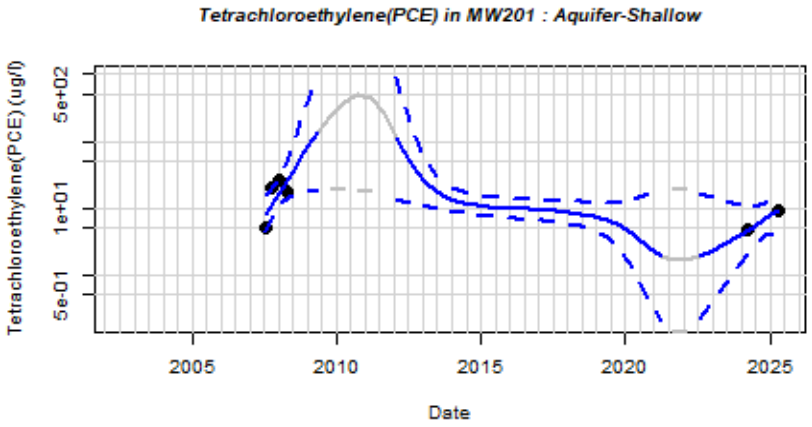

Tetrachloroethylene(PCE) in MW-118S : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
0.3
0.4
0.6
0.8
2005
2010
2015
2020
2025
Date

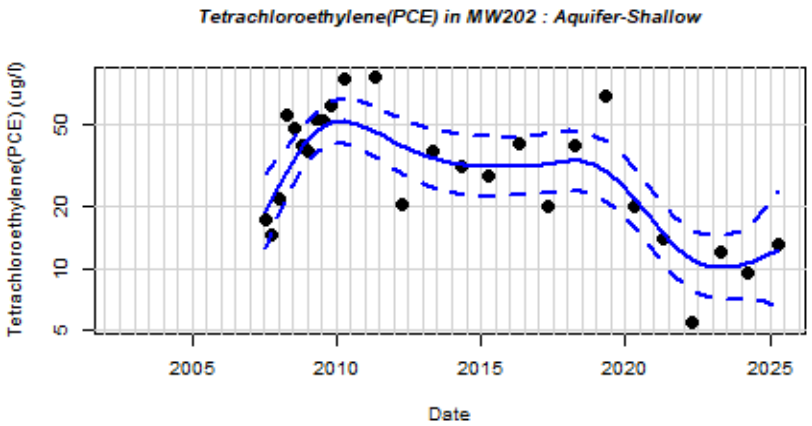

Tetrachloroethylene(PCE) in MW-119S : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
0.6
0.8
1.0
1.4
2005
2010
2015
2020
2025
Date

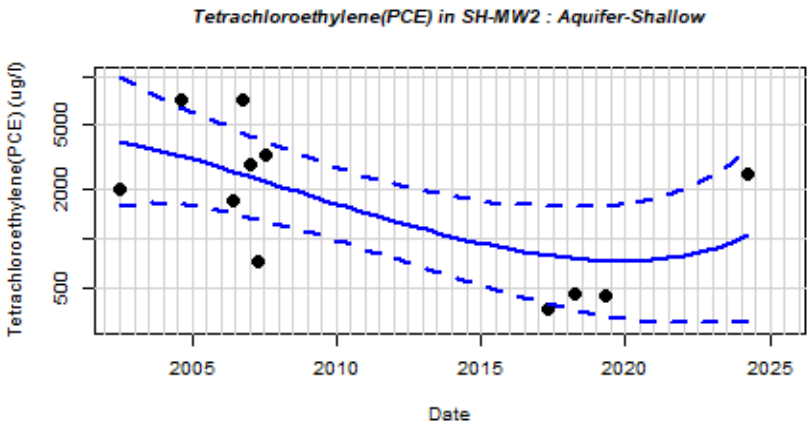

Tetrachloroethylene(PCE) in MW-120S : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
0.5
0.6
0.8
1.0
2005
2010
2015
2020
2025
Date

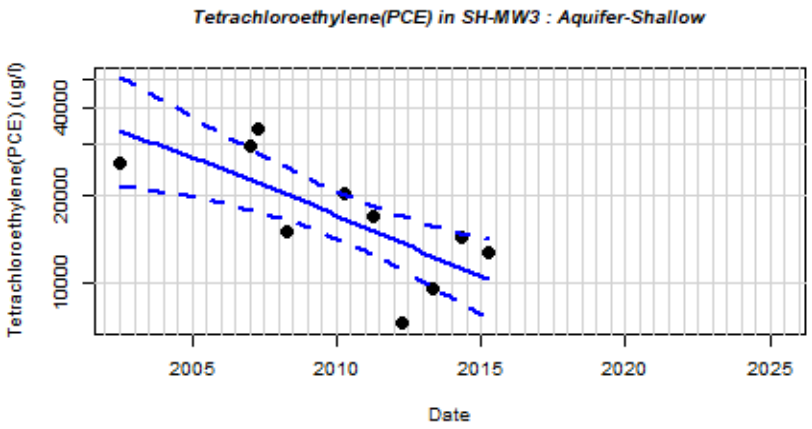

Tetrachloroethylene(PCE) in MW-121S : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

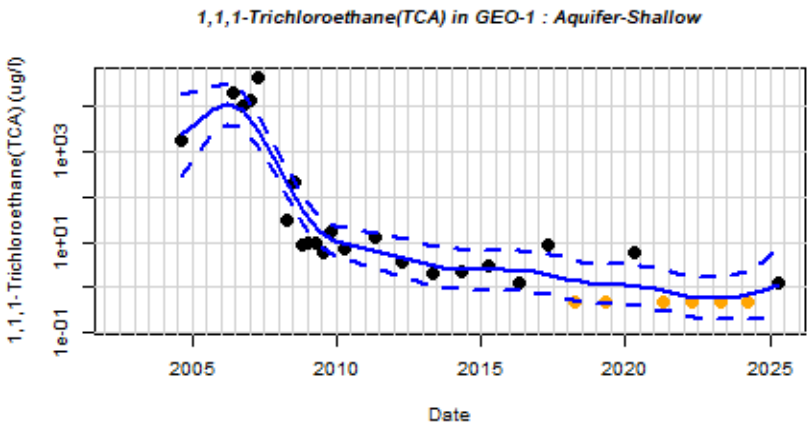

Tetrachloroethylene(PCE) in MW-122 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
200
500
1000
2005
2010
2015
2020
2025
Date

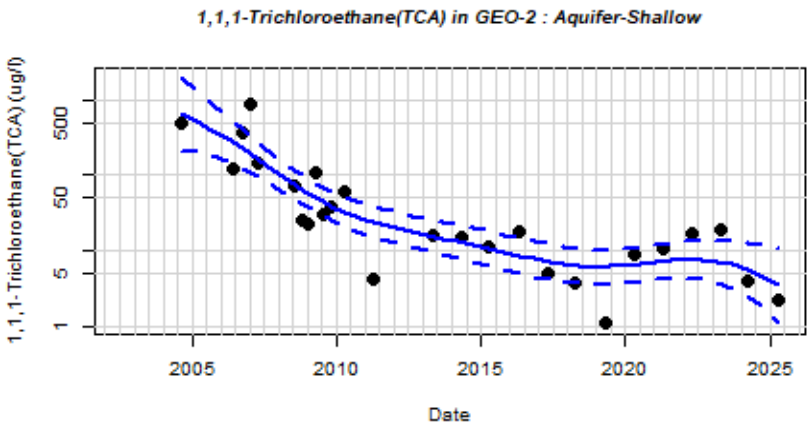

Tetrachloroethylene(PCE) in MW201 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
5e-01
1e+01
5e+02
2005
2010
2015
2020
2025
Date

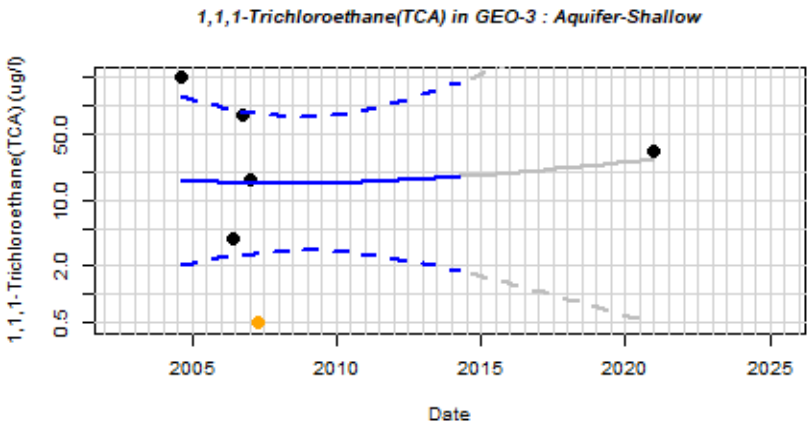

Tetrachloroethylene(PCE) in MW202 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
5
10
20
50
2005
2010
2015
2020
2025
Date

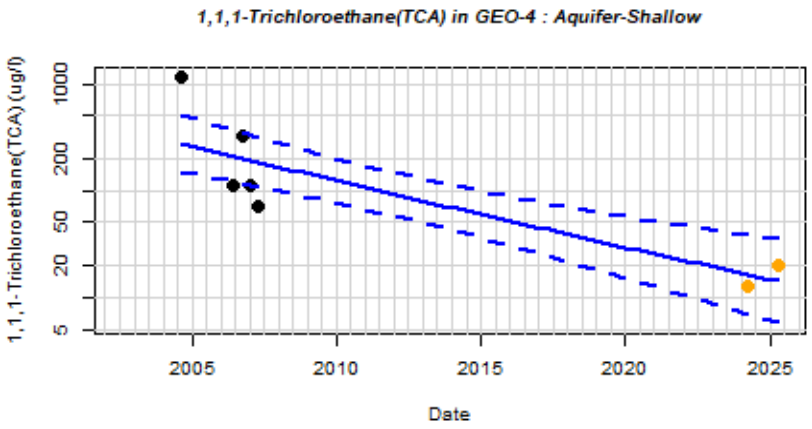

Tetrachloroethylene(PCE) in SH-MW2 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
500
2000
5000
2005
2010
2015
2020
2025
Date

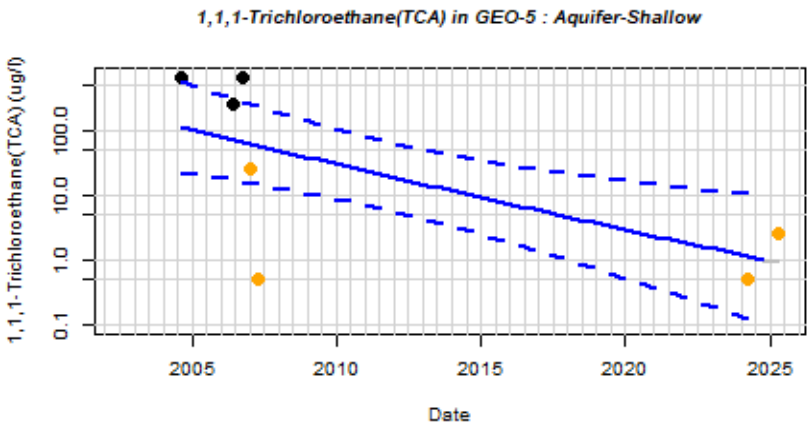

Tetrachloroethylene(PCE) in SH-MW3 : Aquifer-Shallow
Tetrachloroethylene(PCE) (ug/l)
10000
20000
40000
2005
2010
2015
2020
2025
Date

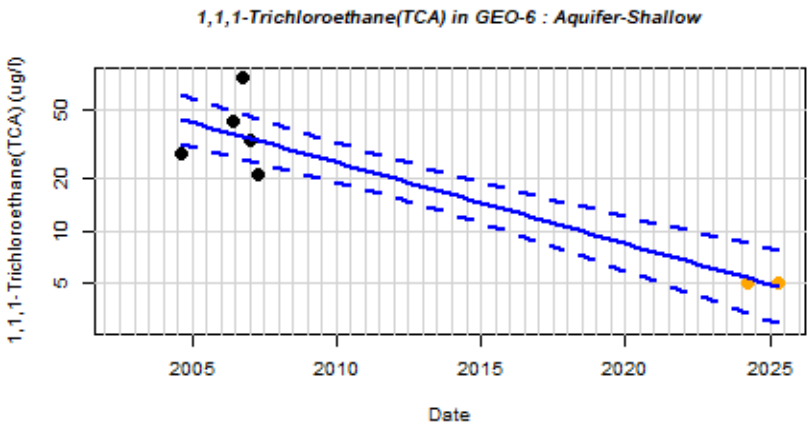

1,1,1-Trichloroethane(TCA) in GEO-1 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
1e-01
1e+01
1e+03
2005
2010
2015
2020
2025
Date

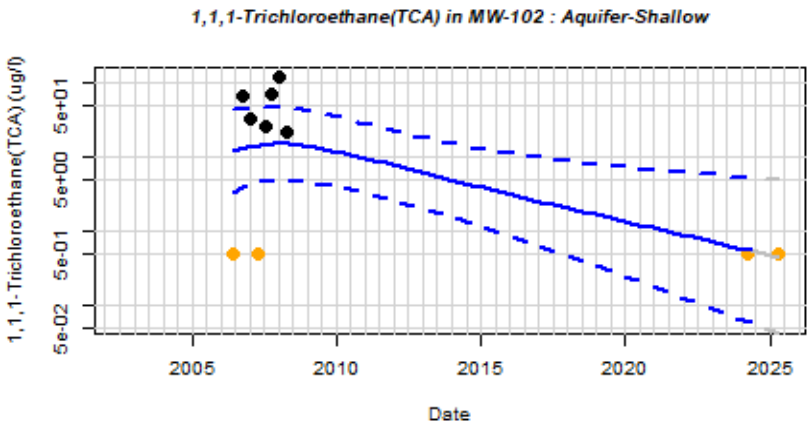

1,1,1-Trichloroethane(TCA) in GEO-2 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
1
5
50
500
2005
2010
2015
2020
2025
Date

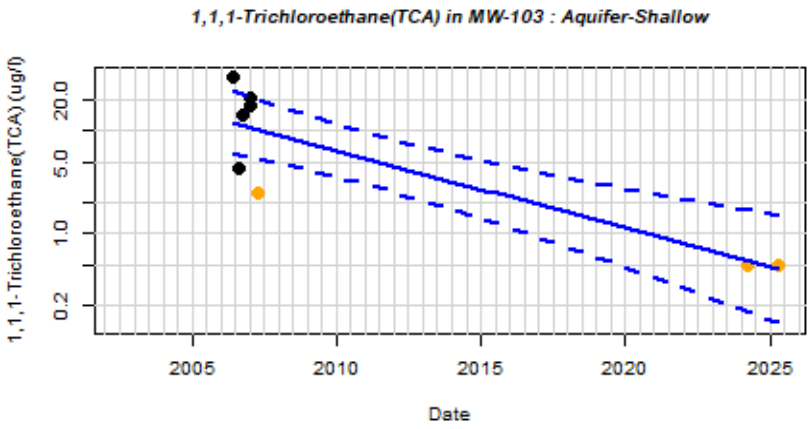

1,1,1-Trichloroethane(TCA) in GEO-3 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.5
2.0
10.0
50.0
2005
2010
2015
2020
2025
Date

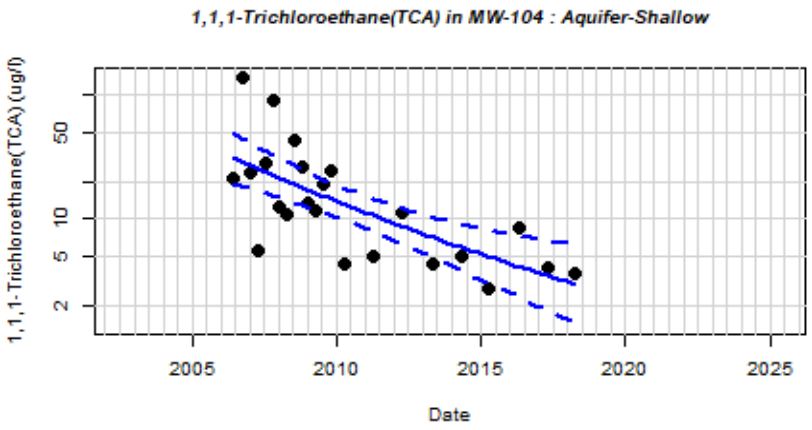

1,1,1-Trichloroethane(TCA) in GEO-4 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
5
20
50
200
1000
2005
2010
2015
2020
2025
Date

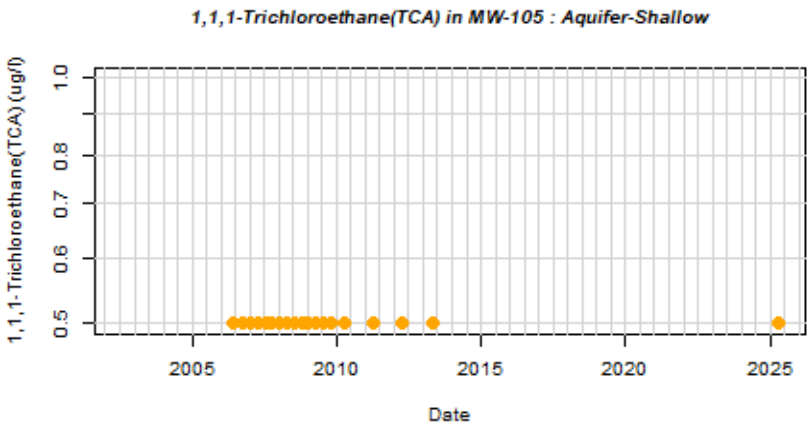

1,1,1-Trichloroethane(TCA) in GEO-5 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.1
1.0
10.0
100.0
2005
2010
2015
2020
2025
Date

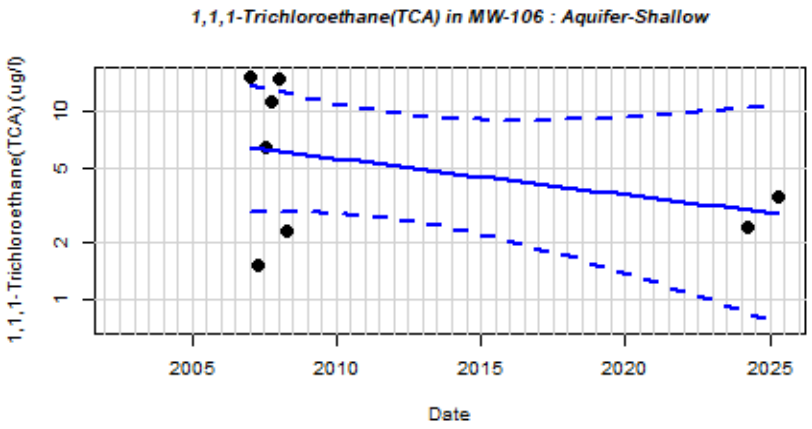

1,1,1-Trichloroethane(TCA) in GEO-6 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
5
10
20
50
2005
2010
2015
2020
2025
Date

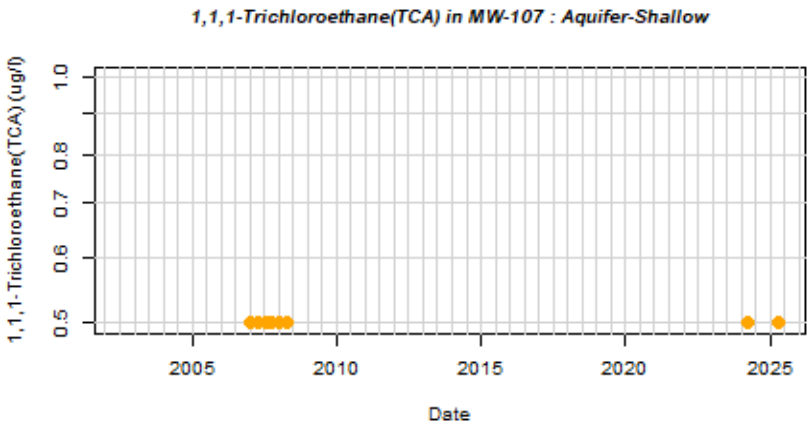

1,1,1-Trichloroethane(TCA) in MW-102 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
5e-02
5e-01
5e+00
5e+01
2005
2010
2015
2020
2025
Date

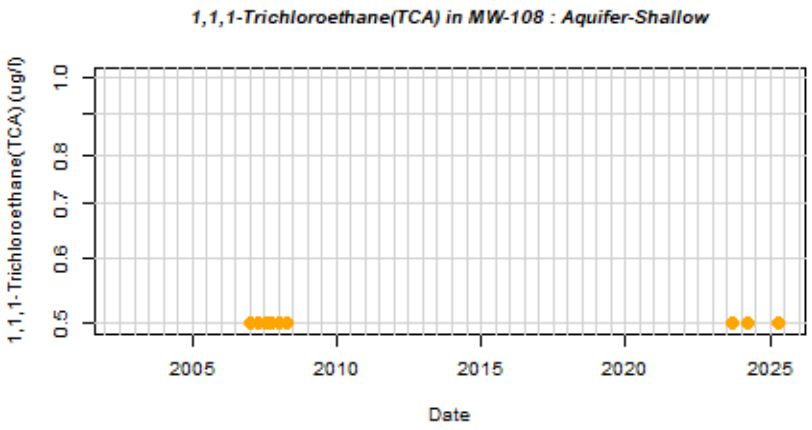

1,1,1-Trichloroethane(TCA) in MW-103 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.2
1.0
5.0
20.0
2005
2010
2015
2020
2025
Date

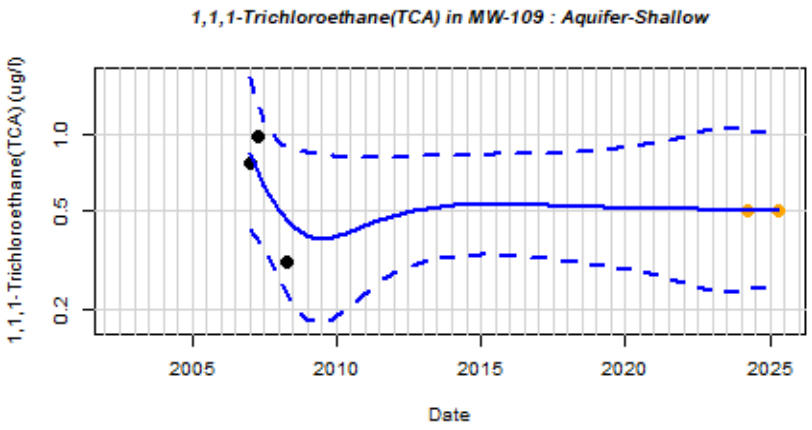

1,1,1-Trichloroethane(TCA) in MW-104 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
2
5
10
50
2005
2010
2015
2020
2025
Date

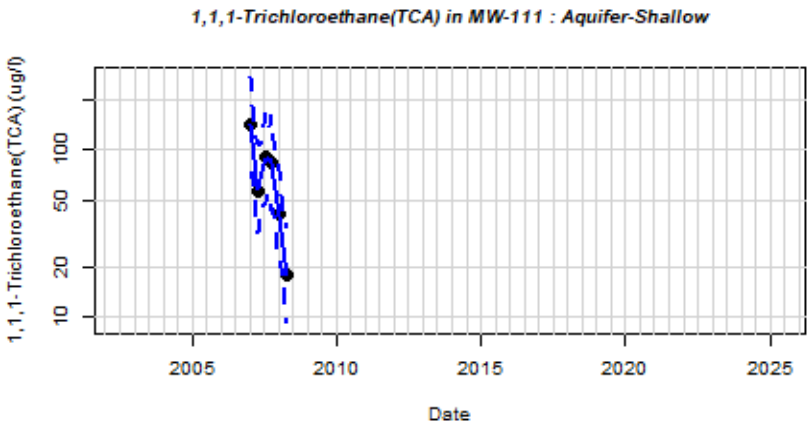

1,1,1-Trichloroethane(TCA) in MW-105 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

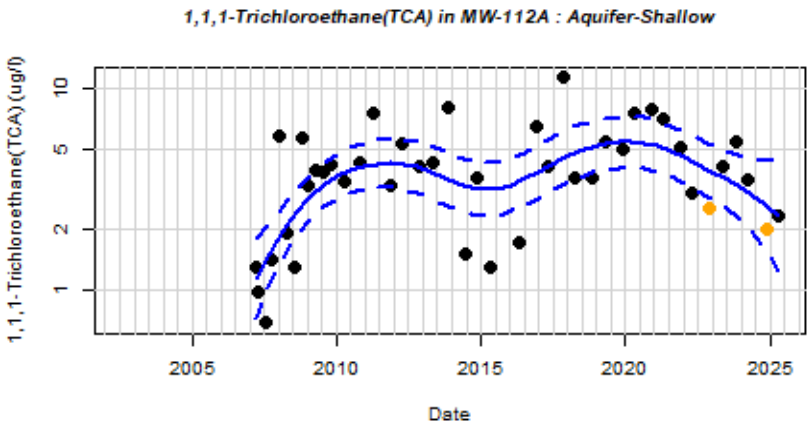

1,1,1-Trichloroethane(TCA) in MW-106 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
1
2
5
10
2005
2010
2015
2020
2025
Date

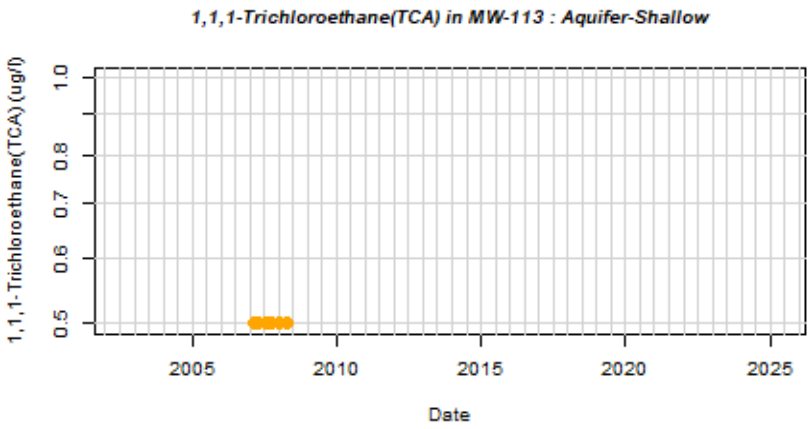

1,1,1-Trichloroethane(TCA) in MW-107 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

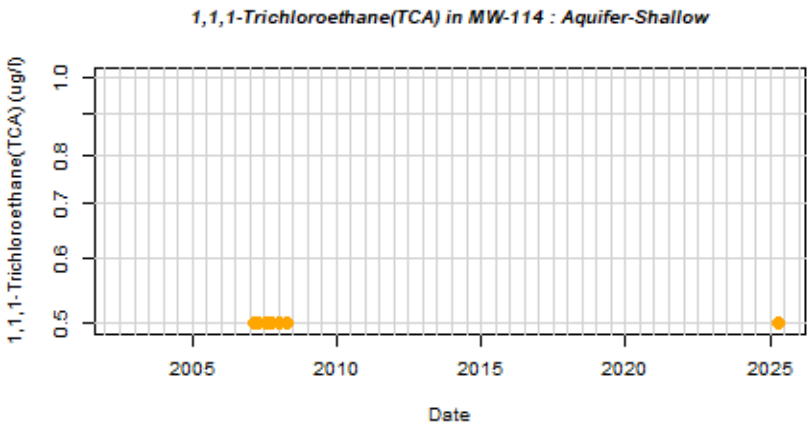

1,1,1-Trichloroethane(TCA) in MW-108 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

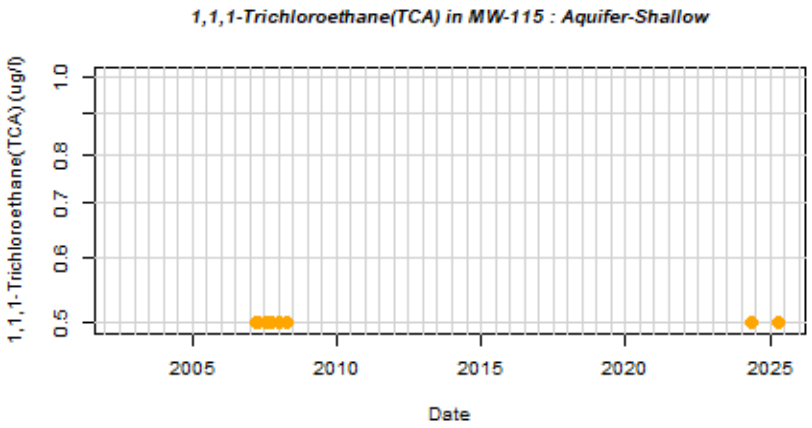

1,1,1-Trichloroethane(TCA) in MW-109 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.2
0.5
1.0
2005
2010
2015
2020
2025
Date

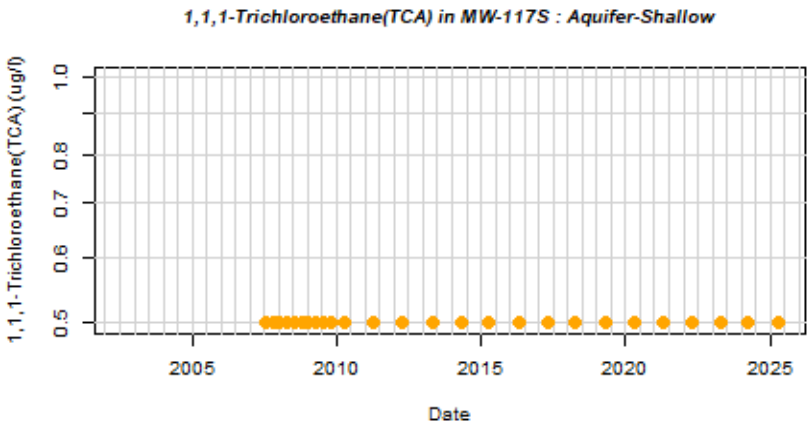

1,1,1-Trichloroethane(TCA) in MW-111 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
10
20
50
100
2005
2010
2015
2020
2025
Date

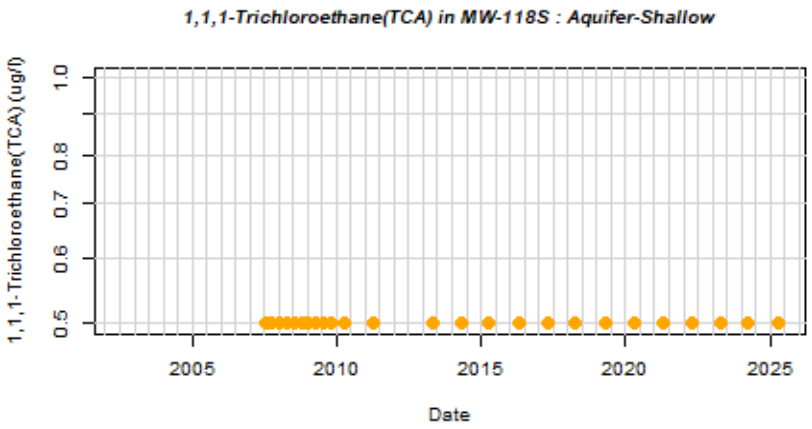

1,1,1-Trichloroethane(TCA) in MW-112A : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
1
2
5
10
2005
2010
2015
2020
2025
Date

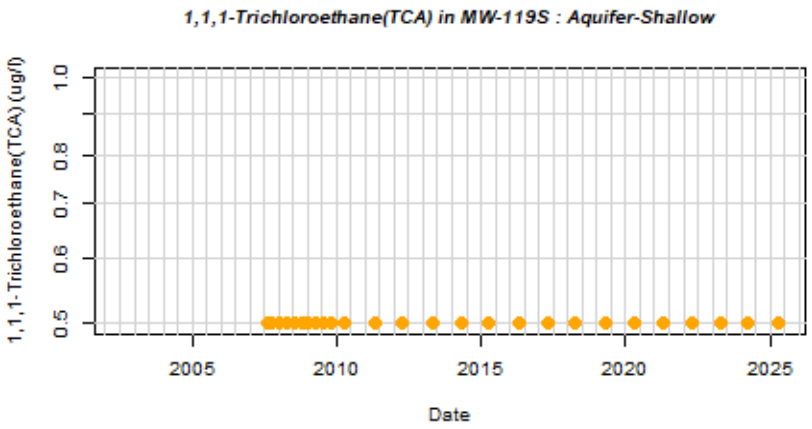

1,1,1-Trichloroethane(TCA) in MW-113 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

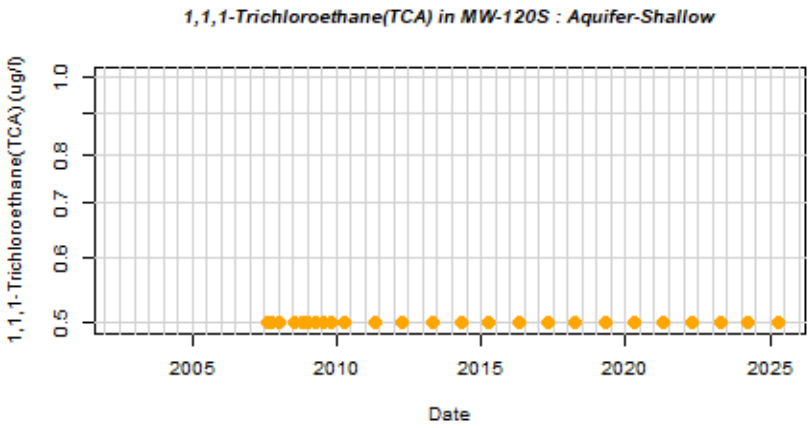

1,1,1-Trichloroethane(TCA) in MW-114 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

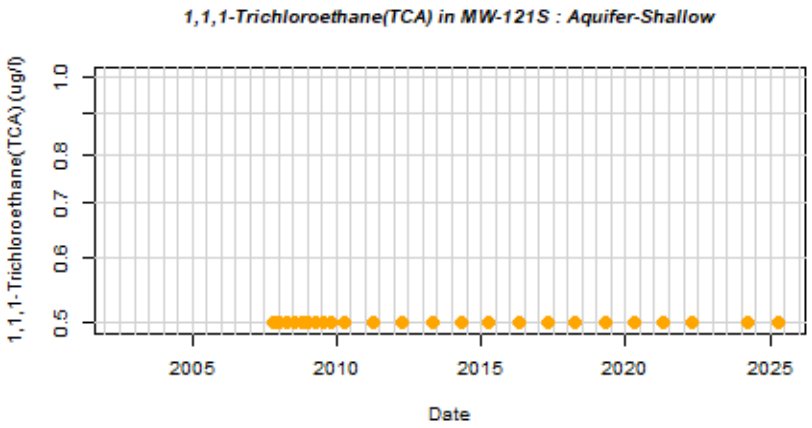

1,1,1-Trichloroethane(TCA) in MW-115 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

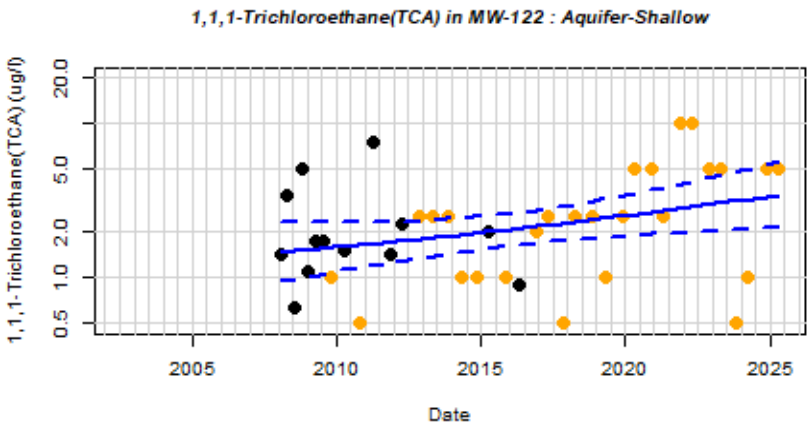

1,1,1-Trichloroethane(TCA) in MW-117S : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

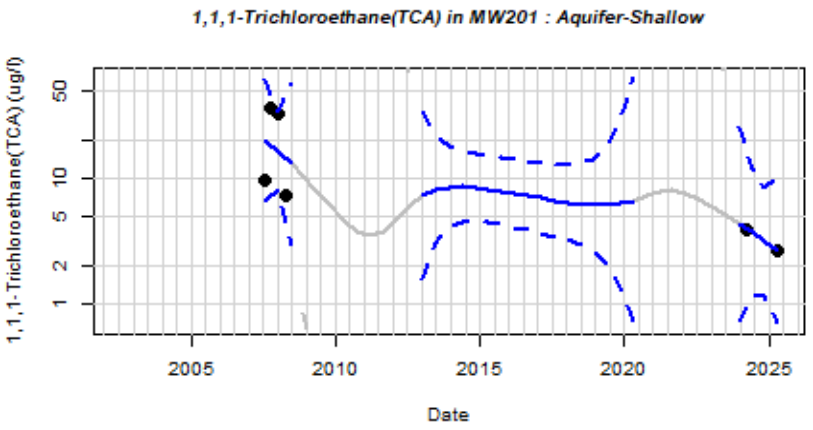

1,1,1-Trichloroethane(TCA) in MW-118S : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

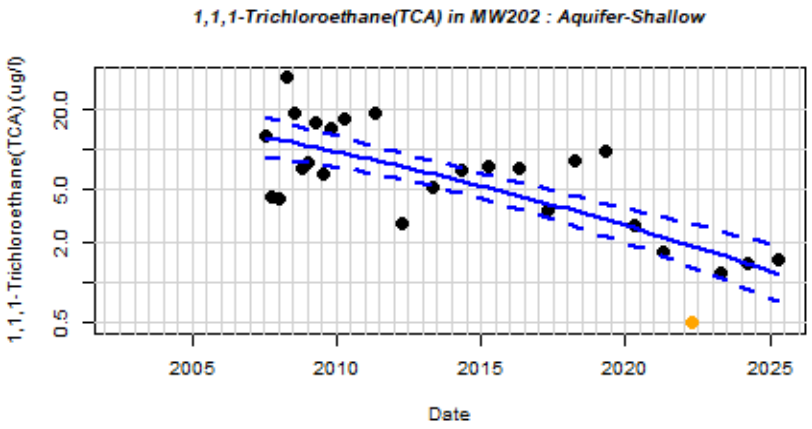

1,1,1-Trichloroethane(TCA) in MW-119S : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

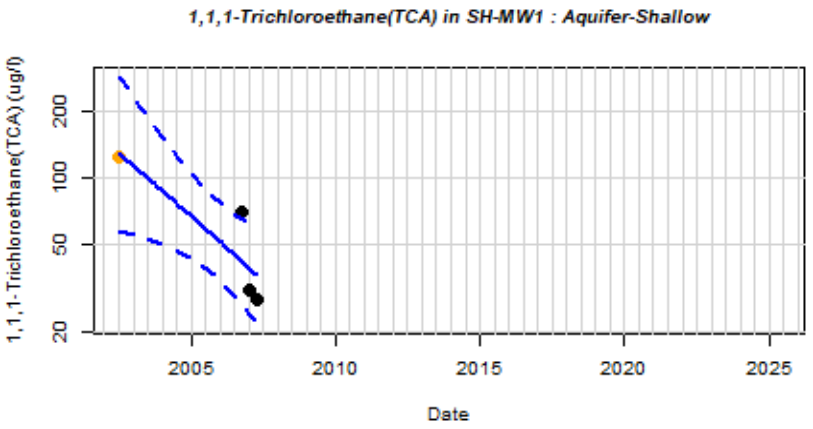

1,1,1-Trichloroethane(TCA) in MW-120S : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

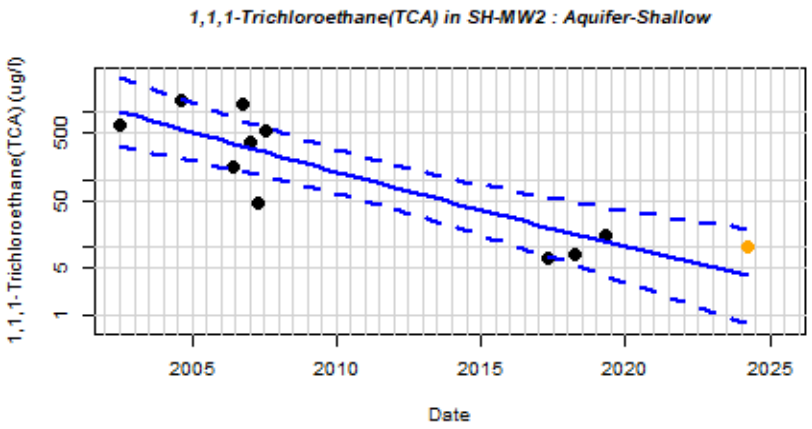

1,1,1-Trichloroethane(TCA) in MW-121S : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

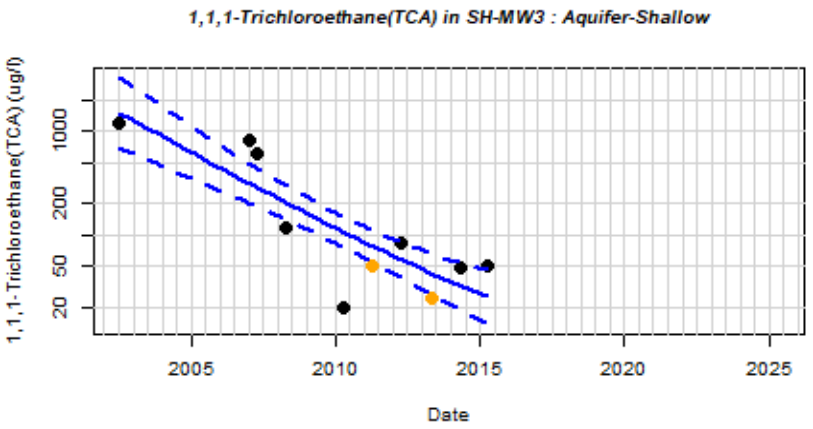

1,1,1-Trichloroethane(TCA) in MW-122 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.5
1.0
2.0
5.0
20.0
2005
2010
2015
2020
2025
Date

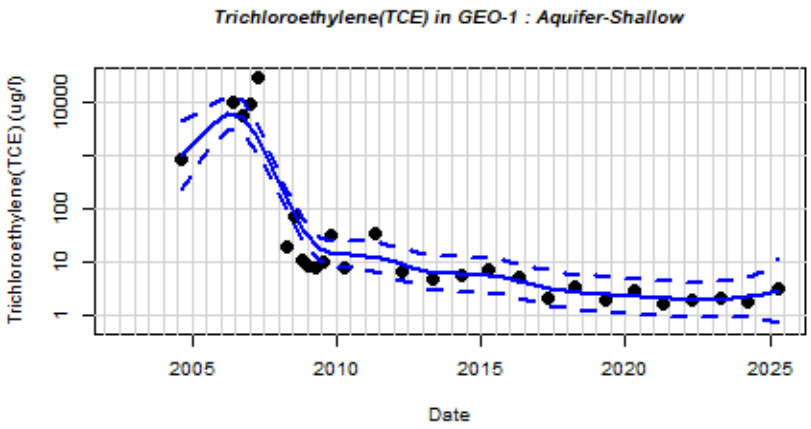

1,1,1-Trichloroethane(TCA) in MW201 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
1
2
5
10
50
2005
2010
2015
2020
2025
Date

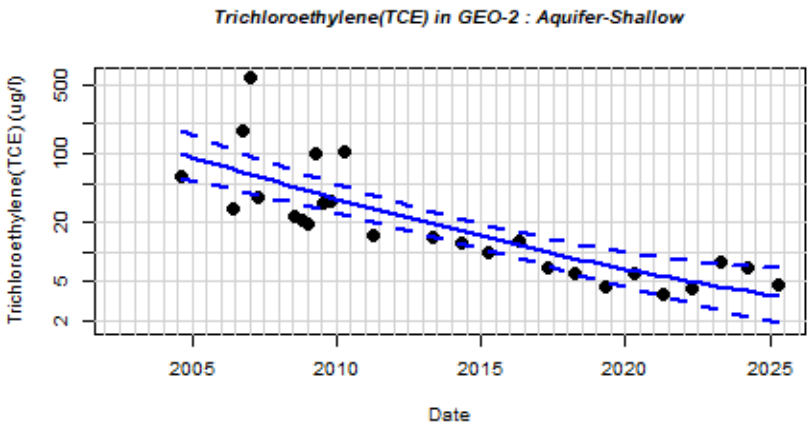

1,1,1-Trichloroethane(TCA) in MW202 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
0.5
2.0
5.0
20.0
2005
2010
2015
2020
2025
Date

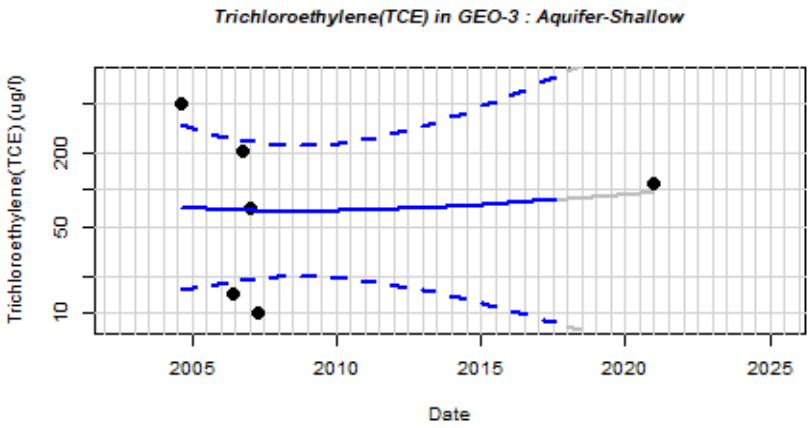

1,1,1-Trichloroethane(TCA) in SH-MW1 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
20
50
100
200
2005
2010
2015
2020
2025
Date

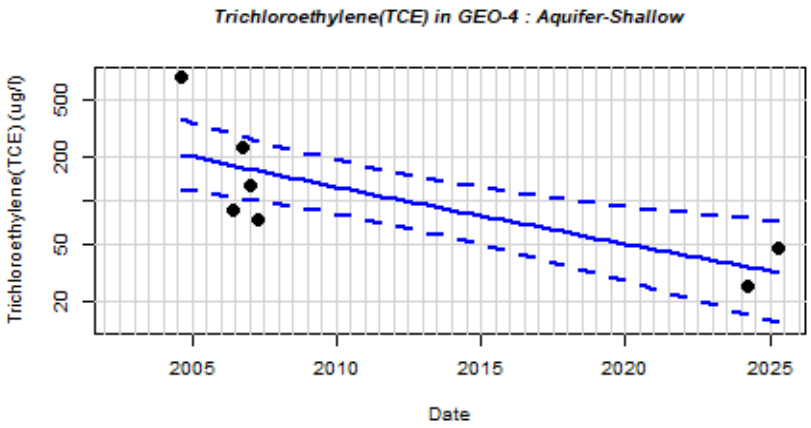

1,1,1-Trichloroethane(TCA) in SH-MW2 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
1
5
50
500
2005
2010
2015
2020
2025
Date

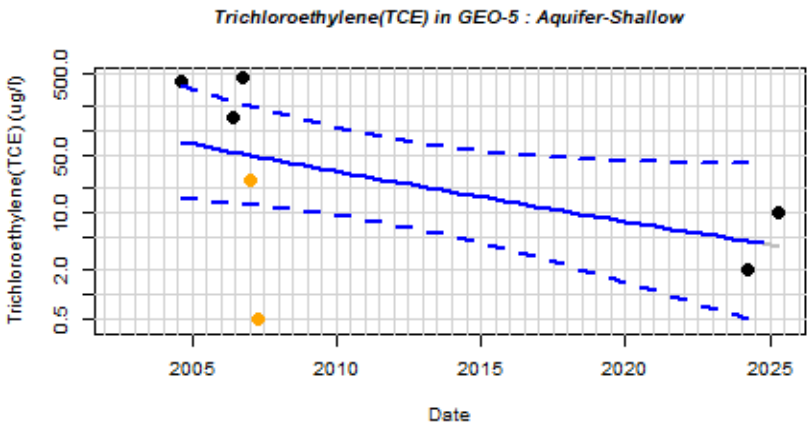

1,1,1-Trichloroethane(TCA) in SH-MW3 : Aquifer-Shallow
1,1,1-Trichloroethane(TCA) (ug/l)
20
50
200
1000
2005
2010
2015
2020
2025
Date

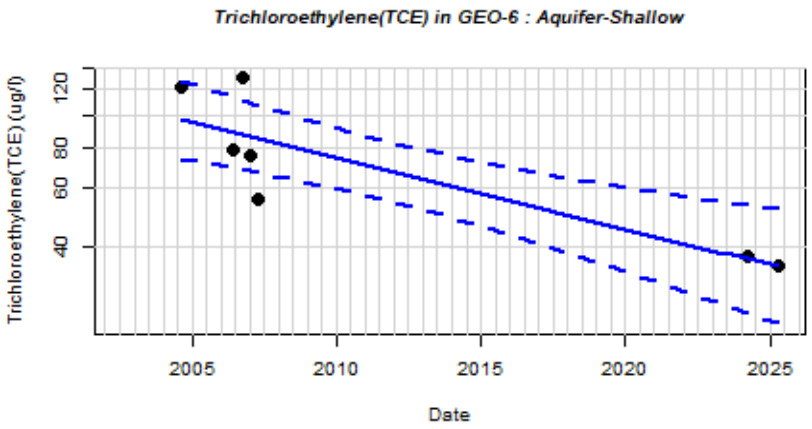

Trichloroethylene(TCE) in GEO-1 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
10000
100
10
1
2005
2010
2015
2020
2025
Date

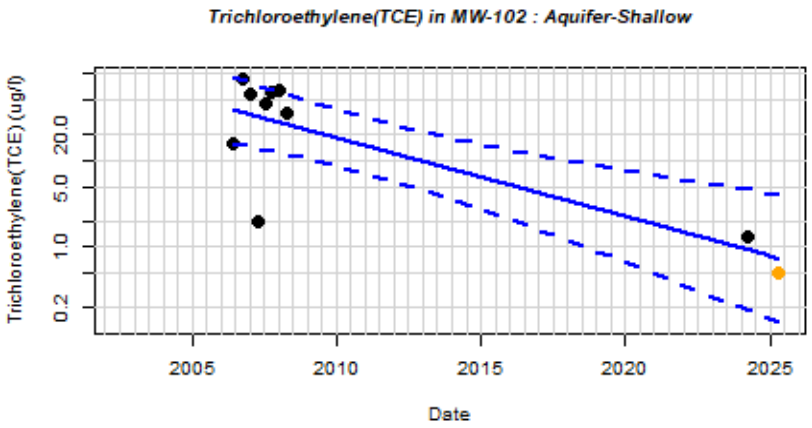

Trichloroethylene(TCE) in GEO-2 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
500
100
20
5
2
2005
2010
2015
2020
2025
Date

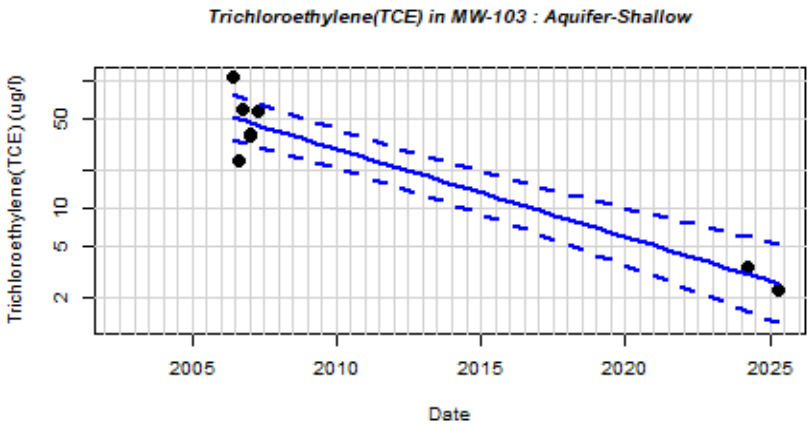

Trichloroethylene(TCE) in GEO-3 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
200
50
10
2005
2010
2015
2020
2025
Date

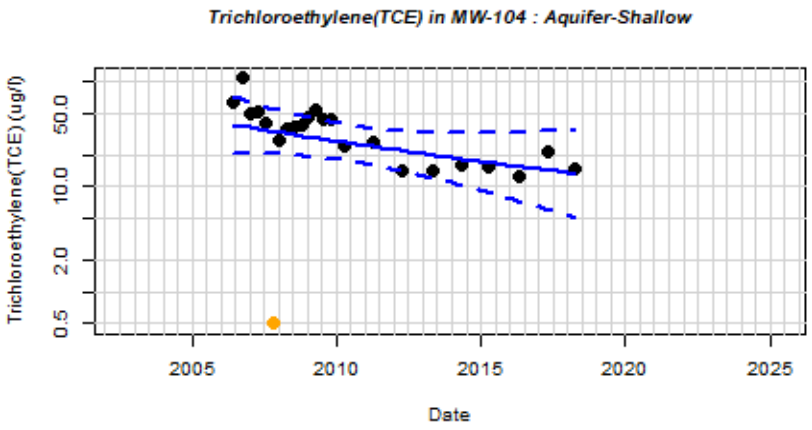

Trichloroethylene(TCE) in GEO-4 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
500
200
50
20
2005
2010
2015
2020
2025
Date

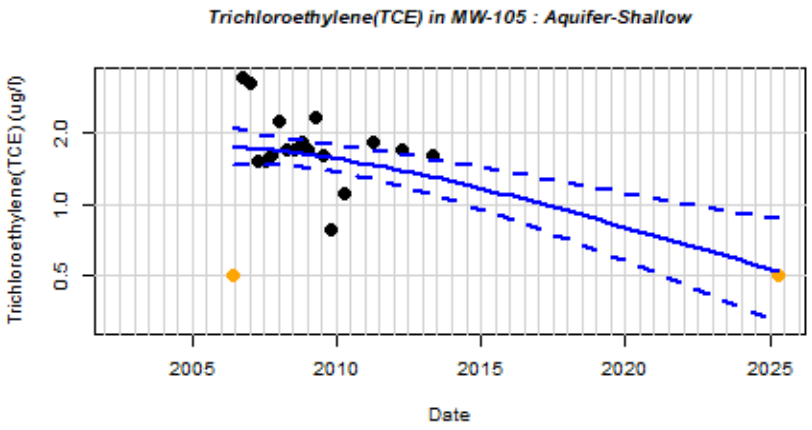

Trichloroethylene(TCE) in GEO-5 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.5
2.0
10.0
50.0
500.0
2005
2010
2015
2020
2025
Date

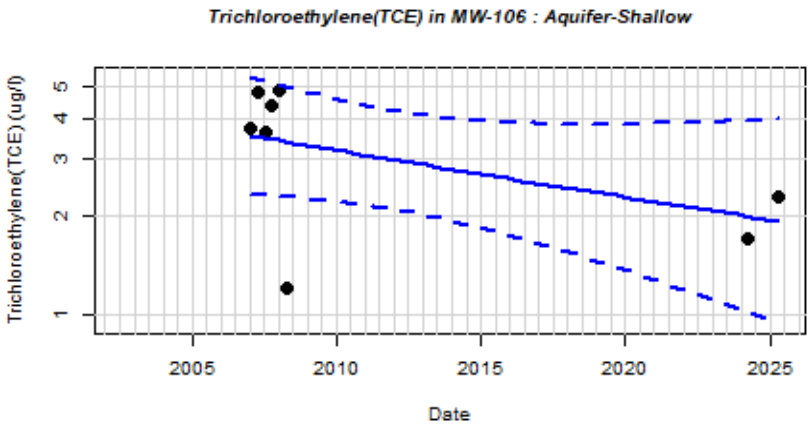

Trichloroethylene(TCE) in GEO-6 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
40
60
80
120
2005
2010
2015
2020
2025
Date

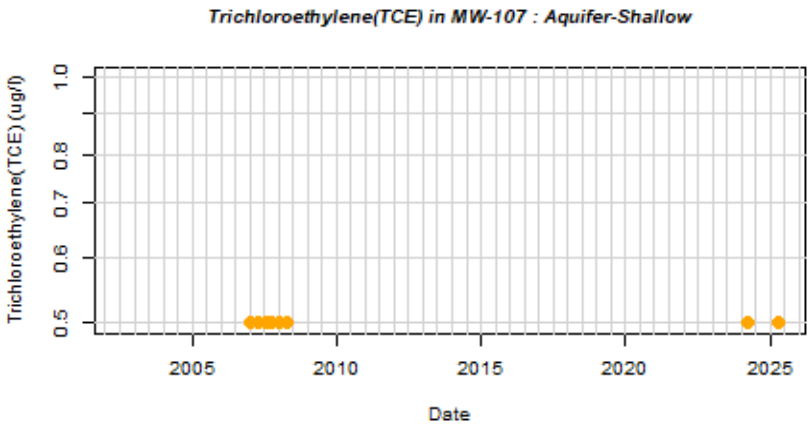

Trichloroethylene(TCE) in MW-102 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.2
1.0
5.0
20.0
2005
2010
2015
2020
2025
Date

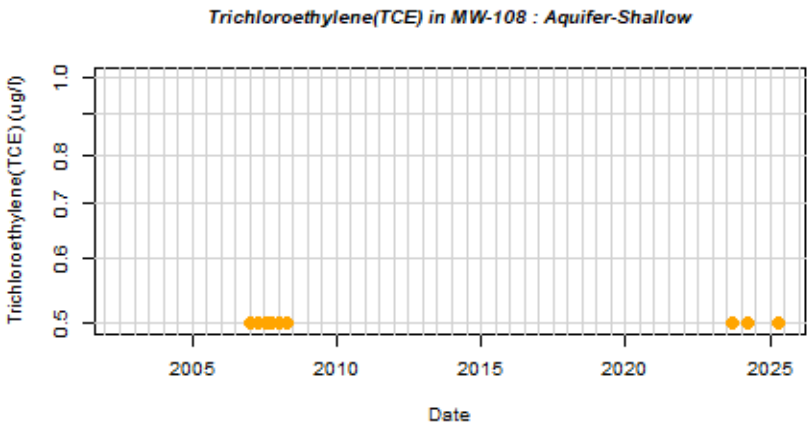

Trichloroethylene(TCE) in MW-103 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
2
5
10
50
2005
2010
2015
2020
2025
Date

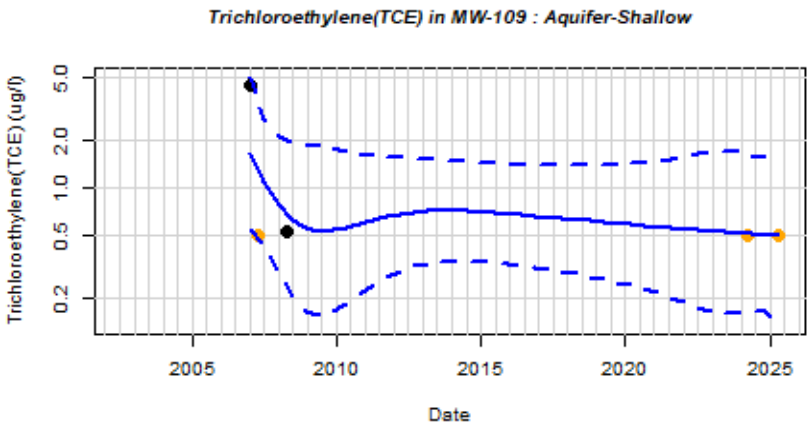

Trichloroethylene(TCE) in MW-104 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.5
2.0
10.0
50.0
2005
2010
2015
2020
2025
Date

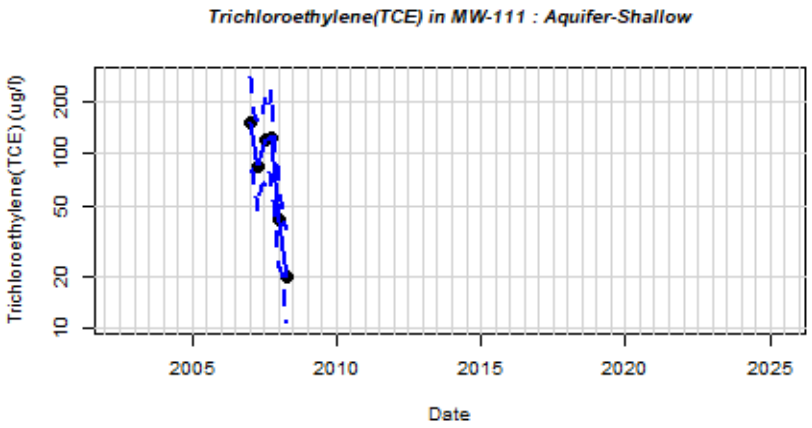

Trichloroethylene(TCE) in MW-105 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.5
1.0
2.0
2005
2010
2015
2020
2025
Date

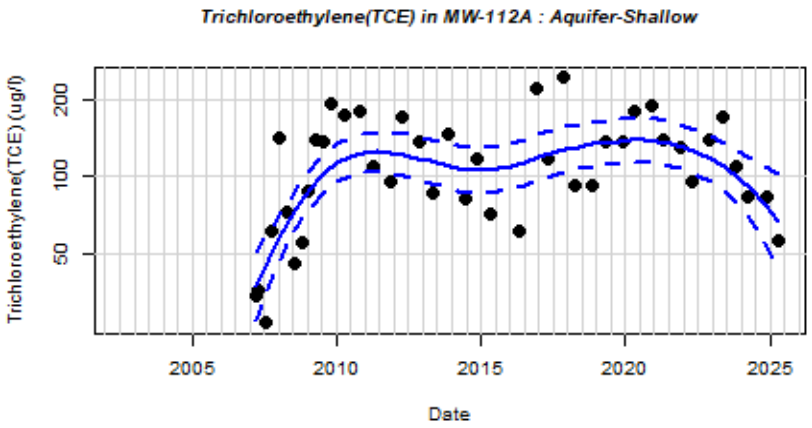

Trichloroethylene(TCE) in MW-106 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
1
2
3
4
5
2005
2010
2015
2020
2025
Date

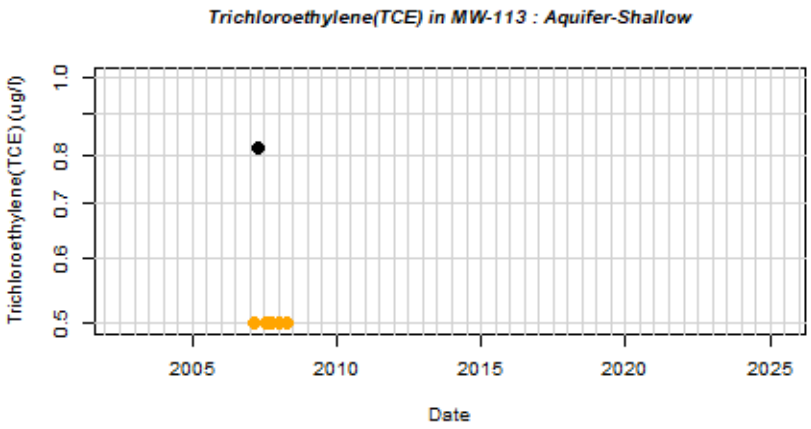

Trichloroethylene(TCE) in MW-107 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

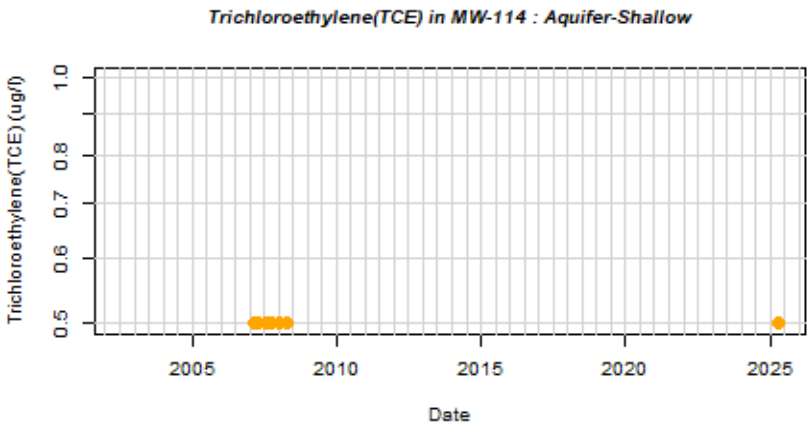

Trichloroethylene(TCE) in MW-108 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

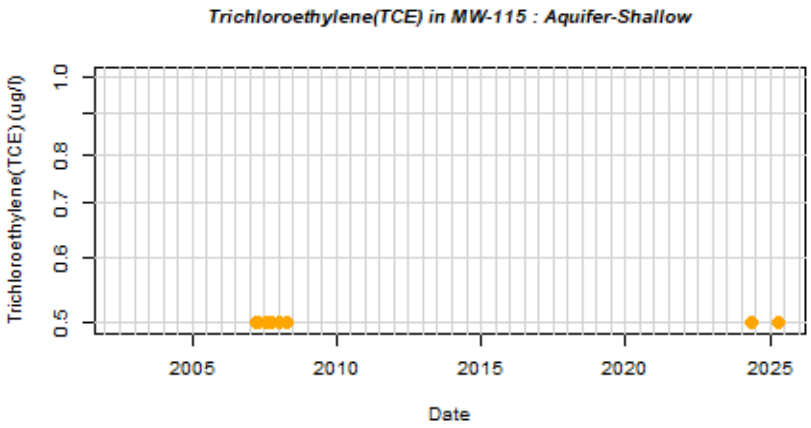

Trichloroethylene(TCE) in MW-109 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.2
0.5
1.0
2.0
5.0
2005
2010
2015
2020
2025
Date

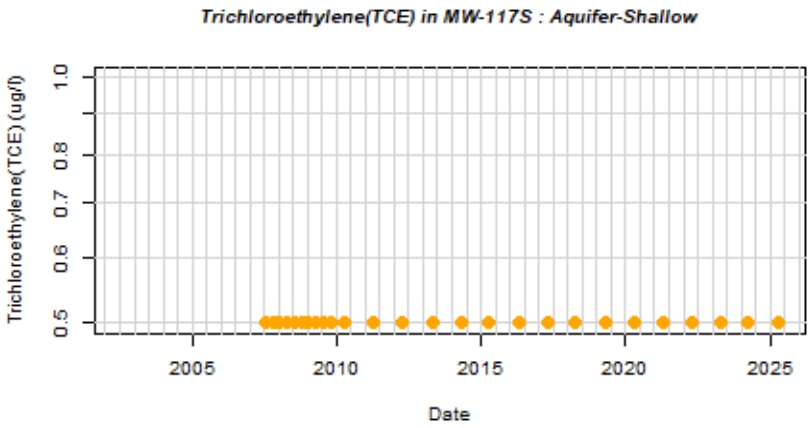

Trichloroethylene(TCE) in MW-111 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
10
20
50
100
200
2005
2010
2015
2020
2025
Date

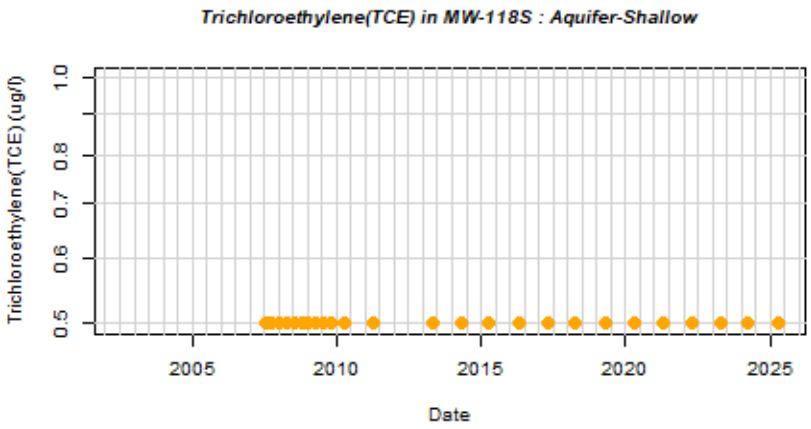

Trichloroethylene(TCE) in MW-112A : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
50
100
200
2005
2010
2015
2020
2025
Date

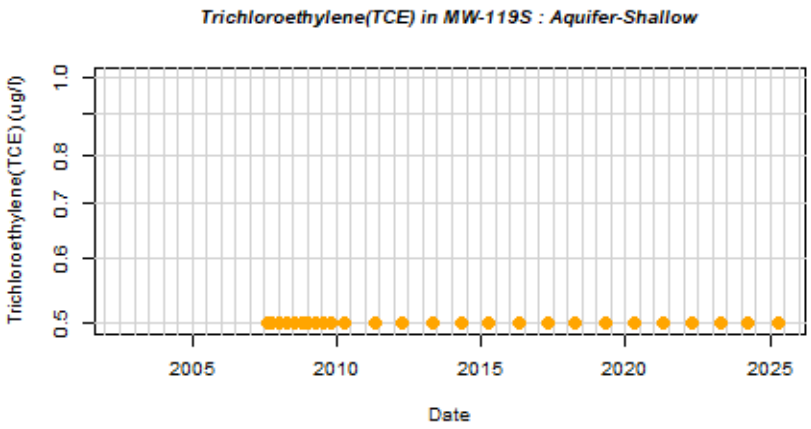

Trichloroethylene(TCE) in MW-113 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

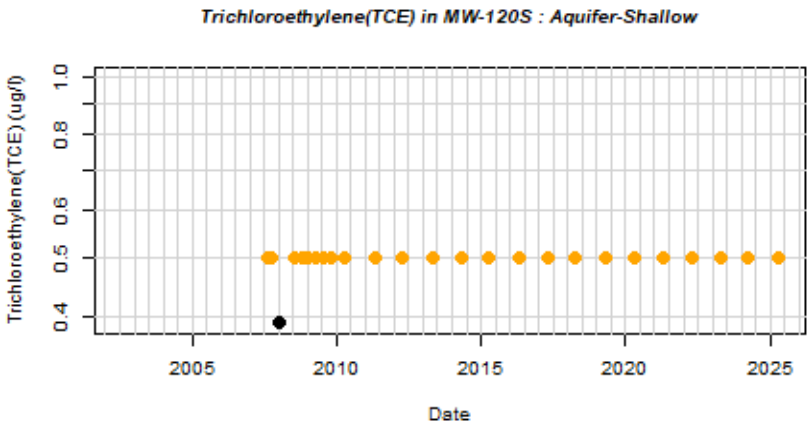

Trichloroethylene(TCE) in MW-114 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

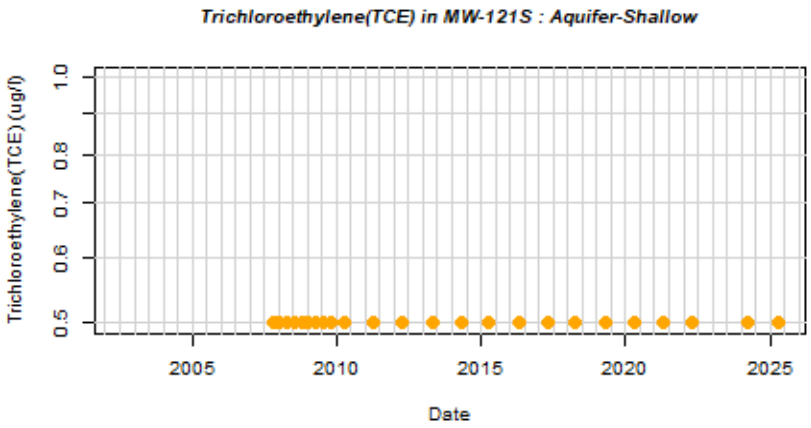

Trichloroethylene(TCE) in MW-115 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

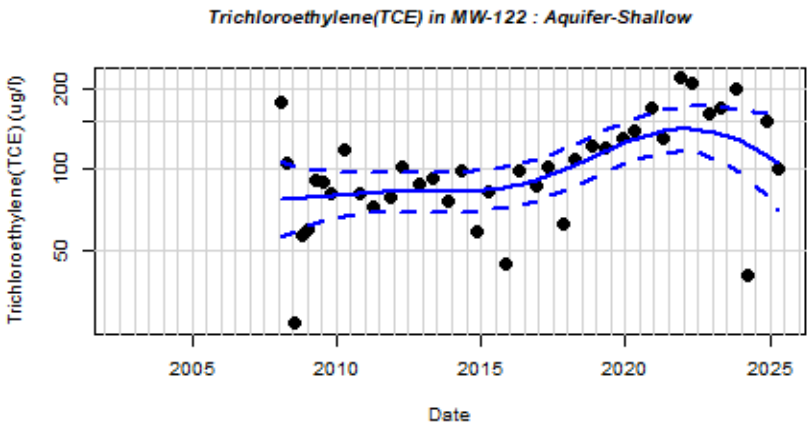

Trichloroethylene(TCE) in MW-117S : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

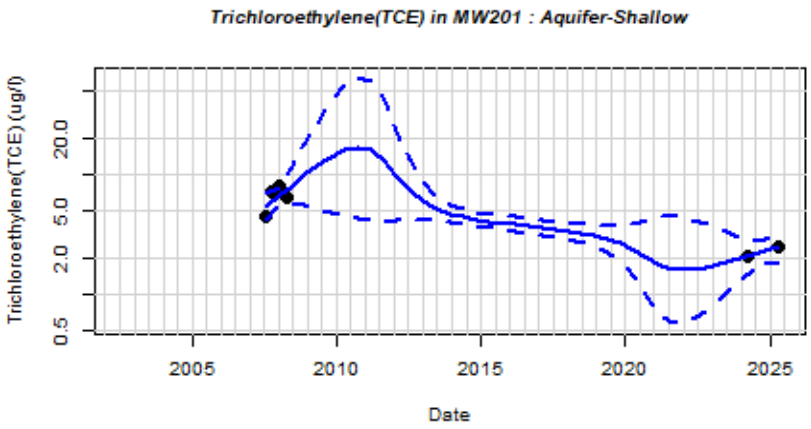

Trichloroethylene(TCE) in MW-118S : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

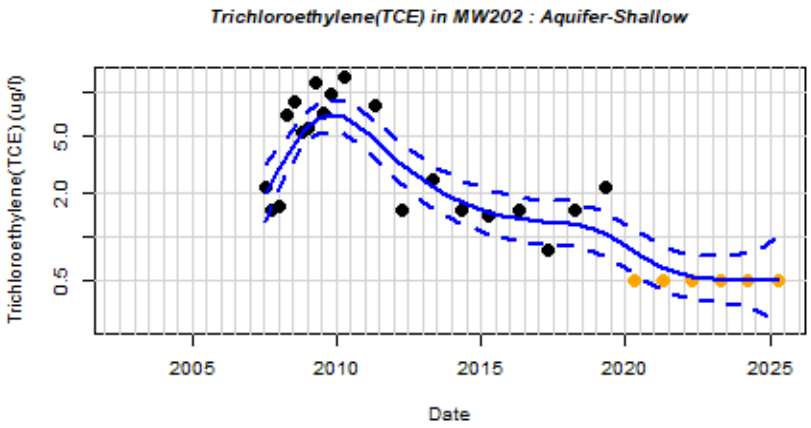

Trichloroethylene(TCE) in MW-119S : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date

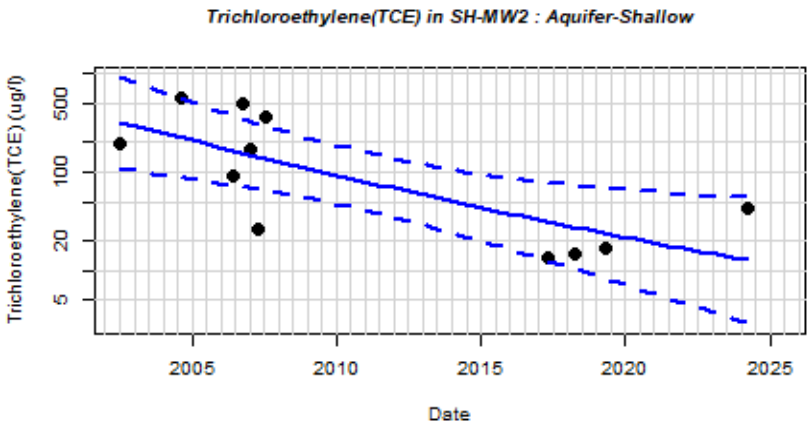

Trichloroethylene(TCE) in MW-120S : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.4
0.5
0.6
0.8
1.0
2005
2010
2015
2020
2025
Date

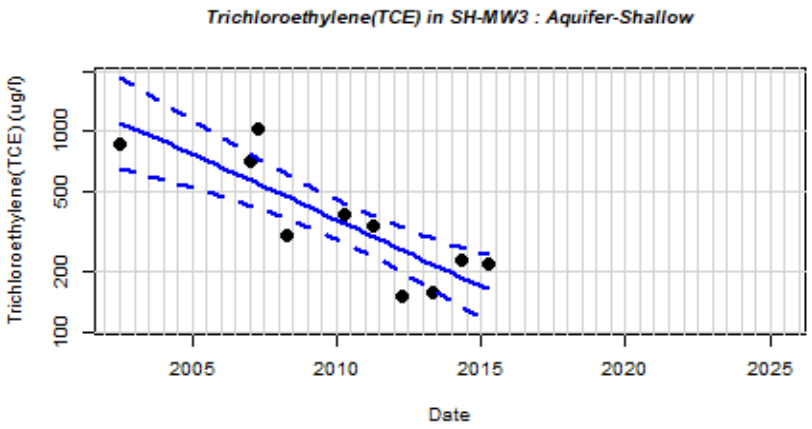

Trichloroethylene(TCE) in MW-121S : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.5
0.6
0.7
0.8
1.0
2005
2010
2015
2020
2025
Date


Trichloroethylene(TCE) in MW-122 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
50
100
200
2005
2010
2015
2020
2025
Date

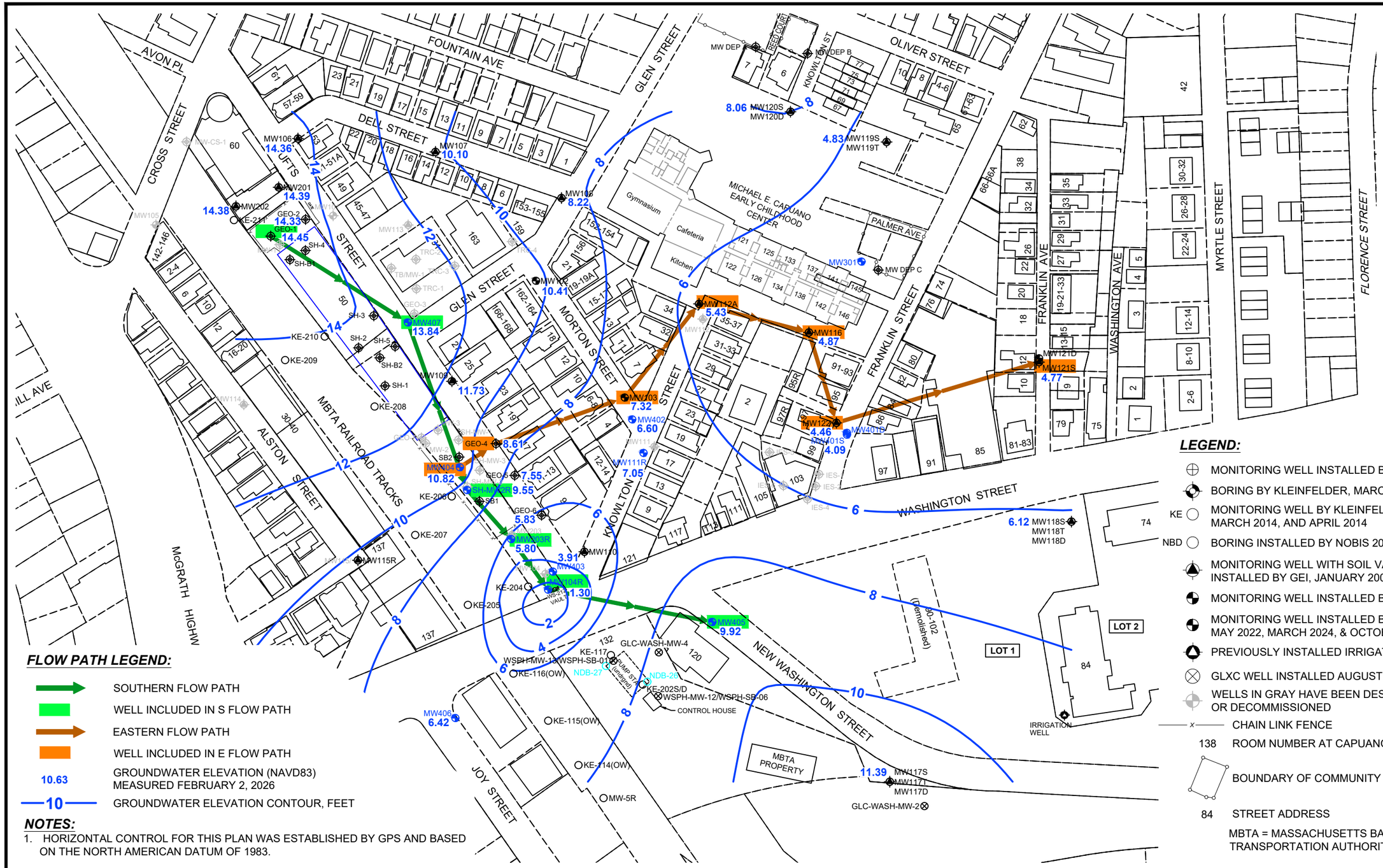

Trichloroethylene(TCE) in MW201 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.5
2.0
5.0
20.0
2005
2010
2015
2020
2025
Date


Trichloroethylene(TCE) in MW202 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
0.5
2.0
5.0
2005
2010
2015
2020
2025
Date


Trichloroethylene(TCE) in SH-MW2 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
5
20
100
500
2005
2010
2015
2020
2025
Date


Trichloroethylene(TCE) in SH-MW3 : Aquifer-Shallow
Trichloroethylene(TCE) (ug/l)
100
200
500
1000
2005
2010
2015
2020
2025
Date

Attachment 3 Molar Concentrations



FLOW PATH LEGEND:

- SOUTHERN FLOW PATH
- WELL INCLUDED IN S FLOW PATH
- EASTERN FLOW PATH
- WELL INCLUDED IN E FLOW PATH
- 10.63 GROUNDWATER ELEVATION (NAVD83) MEASURED FEBRUARY 2, 2026
- 10 GROUNDWATER ELEVATION CONTOUR, FEET

LEGEND:

- MONITORING WELL INSTALLED BY TRC, 2014
- BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- KE MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- NBD BORING INSTALLED BY NOBIS 2014
- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED BY GEI, MAY 2022, MARCH 2024, & OCTOBER 2024
- PREVIOUSLY INSTALLED IRRIGATION WELL
- GLXC WELL INSTALLED AUGUST 2020
- WELLS IN GRAY HAVE BEEN DESTROYED OR DECOMMISSIONED
- CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS

MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES FROM MASSGIS DATABASE.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC. OR INFORMATION PROVIDED BY KLEINFELDER.
4. GEI OBSERVED DECOMMISSIONING OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

0 150 300
SCALE, FEET

Phase II Comprehensive Site Assessment Addendum
50 Tufts Street
Somerville, Massachusetts

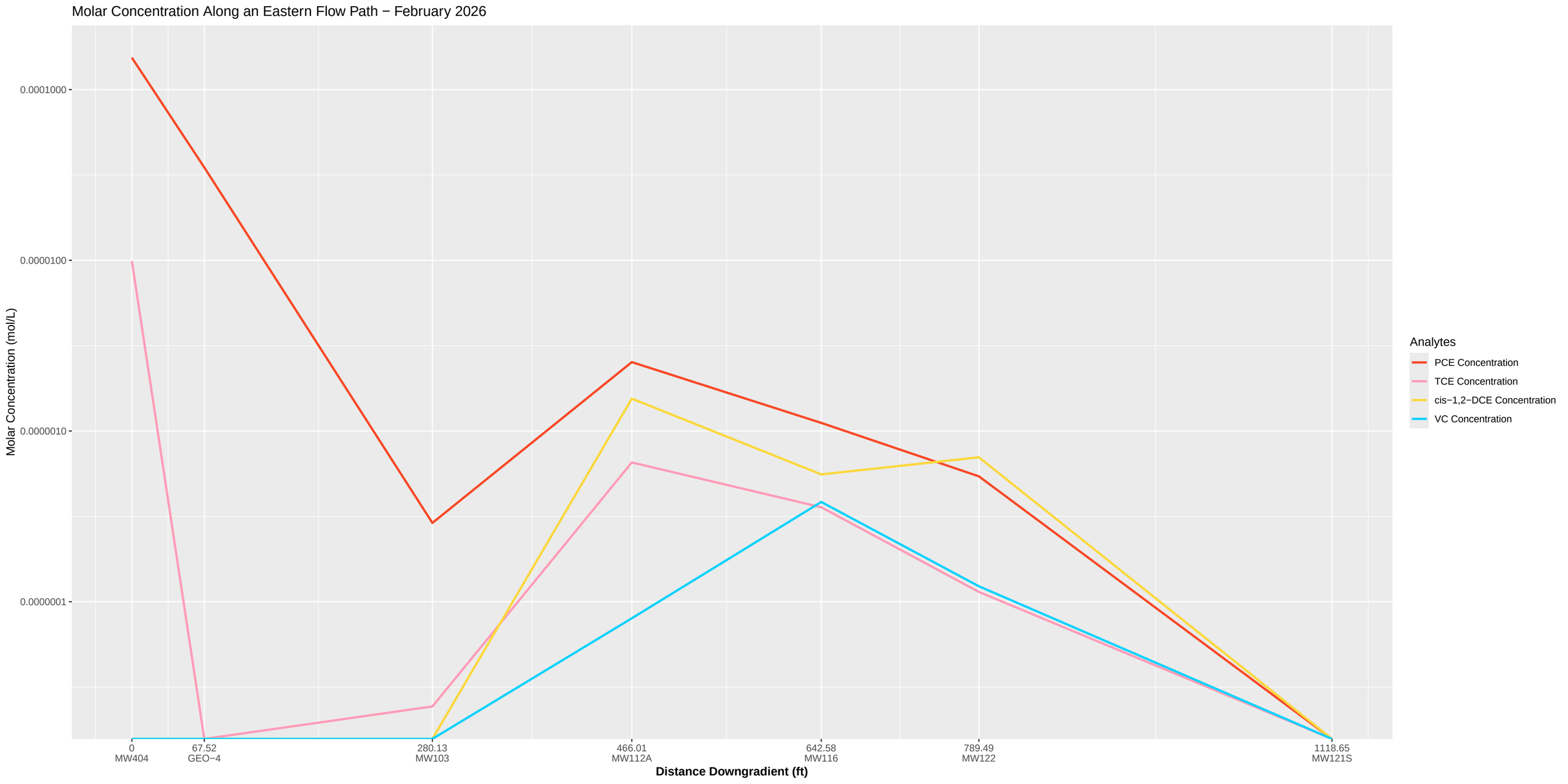
UniFirst Corporation
Wilmington, Massachusetts

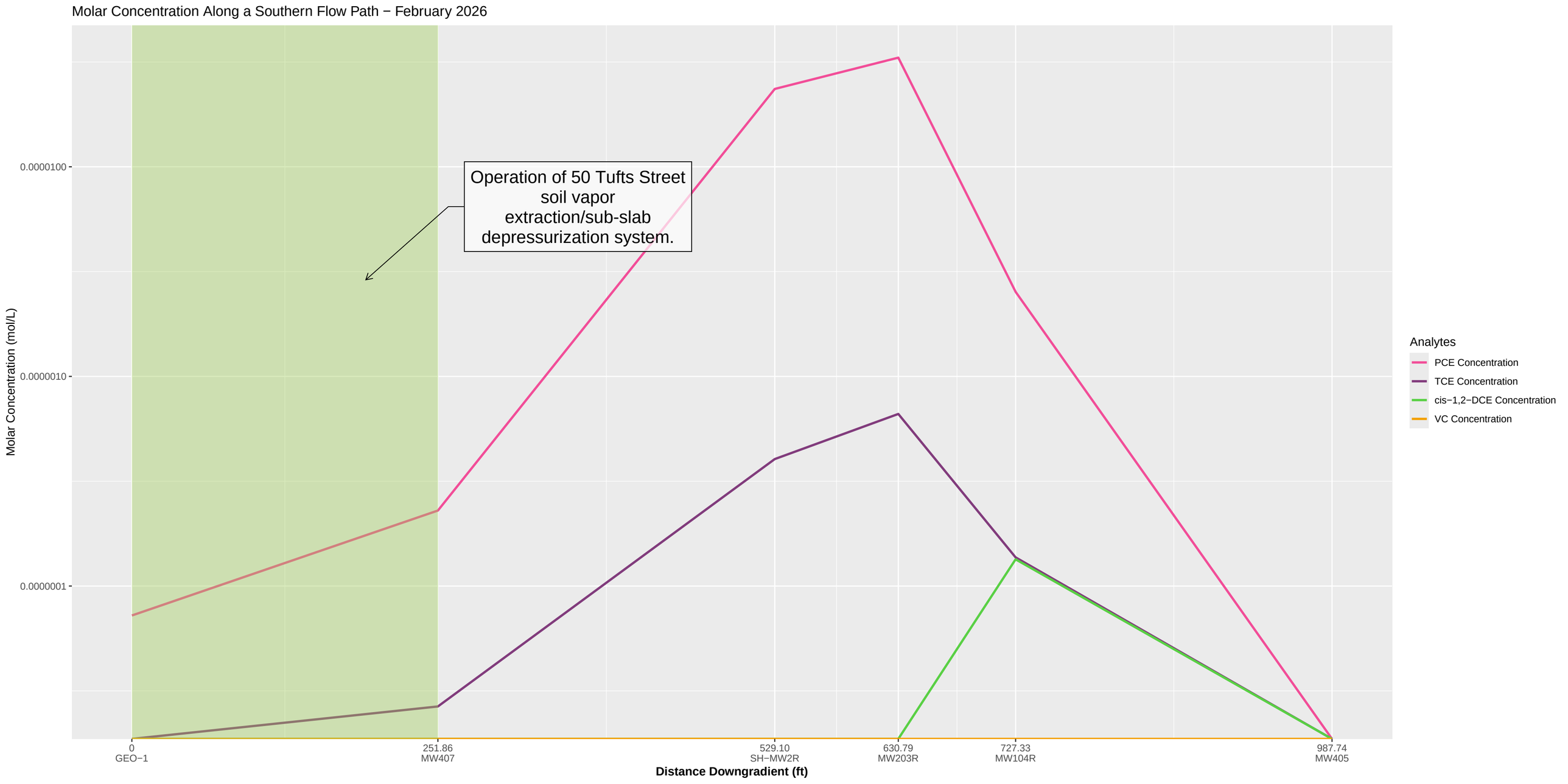
GEI Consultants

FLOW PATHS
FEBRUARY 2026

Project 045163 | April 2026 | Fig. 11

CLINGEN, PAUL B:\Private\04516\#Drafting\04516-3\Ph II CSA Add\045163-03.dwg - 4/1/2026


Molar Concentration Along an Eastern Flow Path − February 2026
Molar Concentration (mol/L)
0.0001000
0.0000100
0.0000010
0.0000001
0
MW404
67.52
GEO−4
280.13
MW103
466.01
MW112A
642.58
MW116
789.49
MW122
1118.65
MW121S
Distance Downgradient (ft)
Analytes
PCE Concentration
TCE Concentration
cis−1,2−DCE Concentration
VC Concentration


Molar Concentration Along a Southern Flow Path − February 2026
Operation of 50 Tufts Street soil vapor extraction/sub-slab depressurization system.
Molar Concentration (mol/L)
0.0000100
0.0000010
0.0000001
0
GEO−1
251.86
MW407
529.10
SH−MW2R
630.79
MW203R
727.33
MW104R
987.74
MW405
Distance Downgradient (ft)
Analytes
PCE Concentration
TCE Concentration
cis−1,2−DCE Concentration
VC Concentration

Attachment 4 Mann Kendall Tests

Appendix G-4 Mann Kendall Evaluation
Table 1A. Results of Mann Kendall Statistical Test
50 Tufts Street, Somerville, Massachusetts
UniFirst Corporation

Well ID	Location	COC	Data Range							Mann Kendall Statistical Test					Notes
			Min. Conc. (ug/L)	Max. Conc. (ug/L)	Most Recent Conc. (ug/L)	% of Data >Lab RL	Start Date	End Date	# of Records	tau[1]	p-value	Trend Direction	Significance of Trend[2]	Trend[5]	
GEO1	Source	PCE	12	48500	12	100	8/16/2004	2/5/2026	30	-0.5632	0.0000	DECREASING	Significant	DECREASING	
		TCA	1.3	42500	0	73	8/16/2004	2/5/2026	28	-0.7472	0.0000	DECREASING	Significant	DECREASING	
GEO2	Source	PCE	26	1420	170	100	8/16/2004	2/3/2026	28	-0.4085	0.0025	DECREASING	Significant	DECREASING	
MW104	Core	PCE	6.5	2200	10.7	96	5/23/2006	4/4/2018	23	-0.6970	0.0000	DECREASING	Significant	DECREASING	
MW105	Upgradient	PCE	0.53	7.8	0.53	22	5/24/2006	4/23/2013	18	-0.3491	0.0834	DECREASING	Insignificant	NO TREND	
MW112A	Core	PCE	144	908	420	100	3/23/2007	2/3/2026	44	0.3224	0.0022	INCREASING	Significant	INCREASING	Interior plume location
MW116	Core	PCE	32	1180	185	100	3/23/2007	2/4/2026	30	-0.2966	0.0224	DECREASING	Significant	DECREASING	
MW117D	Perimeter	PCE	0.54	0.54	0	4	7/19/2007	2/2/2026	28	-0.2673	0.1075	DECREASING	Insignificant	NO TREND	
MW117T	Perimeter	PCE	1.3	1.3	0	4	7/19/2007	2/2/2026	28	0.1089	0.5359	INCREASING	Insignificant	NO TREND	One detection out of 25 samples at 1.3 ppb.
MW118D	Perimeter	PCE	1.0	50	2.6	81	7/20/2007	2/2/2026	42	-0.2927	0.0074	DECREASING	Significant	DECREASING	
MW118S	Perimeter	PCE	0.29	0.39	0	11	7/20/2007	2/2/2026	28	-0.1048	0.5288	DECREASING	Insignificant	NO TREND	
MW118T	Perimeter	PCE	0.90	3.8	0	76	7/20/2007	2/2/2026	29	-0.7791	0.0000	DECREASING	Significant	DECREASING	
MW119S	Perimeter	PCE	1.5	1.5	0	4	8/22/2007	2/4/2026	28	-0.0495	0.8044	DECREASING	Insignificant	NO TREND	
MW119T	Perimeter	PCE	1.7	105	28	100	8/22/2007	2/4/2026	28	-0.7196	0.0000	DECREASING	Significant	DECREASING	
MW120D	Perimeter	PCE	4.7	131	11	100	8/22/2007	2/4/2026	28	-0.7831	0.0000	DECREASING	Significant	DECREASING	
MW120S	Perimeter	PCE	0.71	0.97	0	7	8/22/2007	2/4/2026	28	-0.2897	0.0747	DECREASING	Insignificant	NO TREND	
MW121D	Perimeter	PCE	1.6	356	9.9	98	10/22/2007	2/3/2026	40	-0.5392	0.0000	DECREASING	Significant	DECREASING	
MW122	Core	PCE	42	1700	90	100	1/30/2008	2/4/2026	42	0.3201	0.0030	INCREASING	Significant	INCREASING	Interior plume location
MW202	Core	PCE	5.4	86.5	20	100	7/19/2007	2/3/2026	28	-0.2926	0.0311	DECREASING	Significant	DECREASING	
MW3	Source	PCE	141	51900	391	100	7/19/2007	10/16/2009	12	-0.5758	0.0112	DECREASING	Significant	DECREASING	
		TCE	1.3	247	3.6	83	7/19/2007	10/16/2009	12	0.0000 (-0.4490)	1.0000 (0.0800)	NO TREND[3] (DECREASING)	N/A (Insignificant)	NO TREND	TCE evaluation performed b/c TCE trend differed from PCE trend. See Note 3. Data & outcomes for the truncated dataset are in parentheses.
SHMW3	Source	PCE	7310	34000	12800	100	7/8/2002	4/2/2015	12	-0.4733	0.0392	DECREASING	Significant	DECREASING	

NOTES:

PCE = tetrachloroethylene

TCA = 1,1,1-trichloroethane

TCE = trichloroethylene

ug/L = micrograms per liter

[1] Mann Kendall statistical tests that produced tau values less than zero represent a decreasing trend; tau values greater than zero represents an increasing trend in the dataset.

[2] Statistically significant trend defined as having p-value ≤ 0.05. In the case of a Mann Kendall test, the p-value is representative of the probability that a dataset would have no trend, or tau = 0.

[3] There are two undetected sample results at the beginning of MW-3's data set. If these two non-detects are excluded from Mann Kendall test (leaving n=10), the tau value shows a decreasing trend.

[4] If the Mann Kendall trend for both TCE and PCE at a given location were decreasing (or increasing), only the PCE trend analysis is indluded in the evaluation documentation.

[5] Trend was determined using the "Trend Direction" and "Significance of Trend" columns. If the calculation resulted in "no trend" or the calculated trend direction was decreasing or increasing while statistically insignificant, it was classified as no trend/stable. A decreasing or increasing trend with statistical significance is decreasing and increasing, respectively.

Appendix G-4 Mann Kendall Evaluation
Table 1B. Mann Kendall Statistical Test Summary
Monitored Natural Attenuation
50 Tufts Street, Somerville, Massachusetts
UniFirst Corporation

		# of Trends Evaluated	Decreasing	NO TREND (STABLE)	Increasing	COMMENTS
Total	Counts:	22	13	7	2	
	Percent:	--	59%	32%	9%	
Source	Counts:	6	5	1	0	5 of 6 source locations show decreasing trend and 1 of 6 show stable concentrations
	Percent:	27%	83%	17%	0%	
Core	Counts:	5	3	0	2	3 of 5 core locations show decreasing trend and 2 of 5 show increasing concentrations
	Percent:	23%	60%	0%	40%	
Perimeter	Counts:	10	5	5	0	5 of 10 perimeter locations show decreasing trend and the remaining 5 locations show stable concentrations
	Percent:	45%	50%	50%	0%	
Upgradient	Counts:	1	0	1	0	1 of 1 upgradient locations shows a stable trend
	Percent:	5%	0%	100%	0%	

Notes:
Decreasing, stable, and increasing columns determined using the "Trend" column in Table 1A.

Attachment 5 Linear Regression Analysis

Appendix G-5 Linear Regression Analysis
Table 1A. Results of Linear Regression Statistical Analysis
50 Tufts Street, Somerville, Massachusetts
UniFirst Corporation

Well	Location	Constituent	Screening Level (ug/L)[1]	Data Range							Linear Regression Analysis						Date Data 1st Drops <SL w/o Rebound	Notes[5]	Conclusions
				Minimum Concentration (ug/L)	Maximum Concentration (ug/L)	Most Recent Concentration (ug/L)	% Data Above Lab Reporting Limit[2]	# of Records in Dataset	Start Date	End Date	Coefficient of Determination, R-squared (R^2)	p-value of Correlation (Significance of Slope)	Trend Direction[3]	Est. Degree of Trend Correlation[4]	Attenuation Half-life (days)	Projected Year to Screening Level			
GEO1	Source	PCE	20	12	48,500	12	100	30	8/16/2004	2/5/2026	0.47	0.000032	Decreasing	Moderate	1,103	2024	2026		Moderate decreasing trend; <GW-2 in 2026
	Source	tCE	100	12	88,089	12	100	30	8/16/2004	2/5/2026	0.48	0.000025	Decreasing	Moderate	1,039	2018	2021		Moderate decreasing trend; deg. prods. <GW-2 since 2017
	Source	tCA	2,000	1.3	42,512	2	73	30	8/16/2004	2/5/2026	0.48	0.000021	Decreasing	Moderate	774	NA	2008	TCA above SL in 2006 & 2007, but trend line was calculated to be below SL throughout dataset	Moderate decreasing trend; 1,1,1-TCA <GW-2 since 2008
GEO2	Source	PCE	20	26	1,420	170	100	28	8/16/2004	2/3/2026	0.35	0.00094	Decreasing	Weak	3,406	2039	Not Yet		Moderate decreasing trend; >GW-2 (2026)
	Source	tCE	100	30	2,056	178	100	28	8/16/2004	2/3/2026	0.41	0.00025	Decreasing	Moderate	2,977	2019	Not Yet		Moderate decreasing trend; TCE >GW-2 (2026)
GEO3	Core	PCE	20	93	4,020	93	100	5	8/16/2004	4/13/2007	0.43	>0.2	Decreasing	NS	NA	NA	Not w/in Dataset	Dataset = 5 records; well no longer exists	Pot. decreasing trend; >GW-2 (in 2007); no recent data
	Core	tCE	100	105	4,635	105	100	5	8/16/2004	4/13/2007	0.43	>0.2	Decreasing	NS	NA	NA	Not w/in Dataset	Dataset = 5 records; well no longer exists	Pot. decreasing trend; TCE >GW-2 (in 2007); no recent data
GEO4	Core	PCE	20	3,600	24,100	5,800	100	9	8/16/2004	2/5/2026	0.44	0.053	Decreasing	Moderate	6,598	2173	Not Yet	Dataset = 9 records	Moderate decreasing trend; >GW-2 (2026) (w/proj. year to SL = 2173)
	Core	tCE	100	3,626	24,370	5,800	100	9	8/16/2004	2/5/2026	0.45	0.048	Decreasing	Moderate	6,440	2129	2025	Dataset = 9 records	Moderate decreasing trend; deg. prod. <GW-2 in 2025 & 2026
GEO5	Core	PCE	20	18	14,400	2,300	100	9	8/16/2004	2/5/2026	<0.1	>0.2	No Trend	NS	NA	NA	Not Yet	Dataset = 9 records; Located near GLX Vault	Stable; >GW-2 (2026); core well; trend understood
	Core	tCE	100	18	14,804	2,332	100	9	8/16/2004	2/5/2026	<0.1	>0.2	No Trend	NS	NA	NA	Not Yet	Dataset = 9 records; Located near GLX Vault	Stable; TCE >GW-2 (2026); core well; trend understood
GEO6	Core	PCE	20	558	2,500	1,600	100	9	8/16/2004	2/3/2026	0.51	0.031	Increasing	Moderate	NA	NA	NA	Dataset = 9 records; Located near GLX Vault	Increasing trend; >GW-2 (2026); core well; trend understood
	Core	tCE	100	630	2,558	1,638	100	9	8/16/2004	2/3/2026	0.45	0.047	Increasing	Moderate	NA	NA	NA	Dataset = 9 records; Located near GLX Vault	Increasing trend; TCE >GW-2 (2026); core well; trend understood
MW1	Source	PCE	20	24,200	74,900	49,600	100	5	7/1/2002	4/17/2007	<0.1	>0.2	No Trend	NS	NA	NA	Not w/in Dataset	Dataset = 5 records	Stable; >GW-2 (in 2007); no recent data; core well
	Source	tCE	100	152,200	272,000	154,890	100	5	7/1/2002	4/17/2007	0.29	>0.2	Decreasing	NS	NA	NA	Not w/in Dataset	Dataset = 5 records	Pot. decreasing trend; TCE & 1,1-DCE >GW-2 (in 2007); no recent data but adjacent well GEO-1 deg. prod. <GW-2 since 2017; core well
	Source	tCA	2,000	112,000	290,000	151,000	100	5	7/1/2002	4/17/2007	0.19	>0.2	Decreasing	NS	NA	NA	Not w/in Dataset	tCA above SL all dates; Dataset = 5 records	Pot. decreasing trend; >GW-2 (in 2007); no recent data but adjacent well GEO-1 <GW-2 since 2008; core well
MW3	Source	PCE	20	141	51,900	391	100	12	7/1/2002	10/16/2009	0.62	0.0024	Decreasing	Moderate	326	2013	Not w/in Dataset		Moderate decreasing trend; >GW-2 (in 2009) but likely <GW-2 now (no recent data)
	Source	tCE	100	142	52,155	397	100	12	7/1/2002	10/16/2009	0.62	0.0025	Decreasing	Moderate	326	2011	Not w/in Dataset		Moderate decreasing trend; deg. prods. <GW-2 (in 2009) (no recent data)
MW101	Core	PCE	20	91	192	91	100	5	5/24/2006	4/13/2007	0.47	>0.2	Decreasing	NS	NA	NA	Not w/in Dataset	Dataset = 5 records; well no longer exists	Pot. decreasing trend; >GW-2 (in 2007); no recent data but adjacent well GEO-2 decreasing
	Core	tCE	100	141	246	143	100	5	5/24/2006	4/13/2007	0.50	0.18	Decreasing	Moderate	510	2008	Not w/in Dataset	Dataset = 5 records; well no longer exists	Moderate decreasing trend; TCE >GW-2 (in 2007); no recent data but adjacent well GEO-2 decreasing
MW102	Core	PCE	20	6	898	66	100	12	5/24/2006	2/3/2026	0.58	0.0041	Decreasing	Moderate	1,631	2025	Not Yet		Moderate decreasing trend; >GW-2 (2026)
	Core	tCE	100	6	1,037	71	100	12	5/24/2006	2/3/2026	0.58	0.0040	Decreasing	Moderate	1,594	2015	2024		Moderate decreasing trend; deg. prods. <GW-2 since 2024
MW103	Core	PCE	20	27	2,600	48	100	10	5/24/2006	2/3/2026	0.95	0.0000020	Decreasing	Strong	1,361	2029	Not Yet		Strong decreasing trend; >GW-2 (2026)
	Core	tCE	100	29	2,722	51	100	10	5/24/2006	2/3/2026	0.95	0.0000021	Decreasing	Strong	1,376	2021	2026		Strong decreasing trend; deg. prods. <GW-2 in 2026
MW104	Core	PCE	20	6.5	160	11	100	23	5/23/2006	4/4/2018	0.53	0.000090	Decreasing	Moderate	1,755	2010	2009	Well no longer exists	Moderate decreasing trend; <GW-2; core well; no recent data (well destroyed during GLX work)
	Core	tCE	100	89	760	111	100	23	5/23/2006	4/4/2018	0.71	0.00000043	Decreasing	Strong	1,972	2017	Not w/in dataset	Well no longer exists	Strong decreasing trend; degradation products >GW-2; core well; no recent data (well destroyed during GLX work)
MW104R	Core	PCE	20	420.0	2,200	420	100	7	4/4/2024	2/3/2026	0.22	>0.2	Decreasing	NS	NA	NA	Not Yet	MW-104R was installed 2 feet deeper (as the result of change in grade) & 25 ft S of MW-104; Located near GLX Vault; Dataset = 7 records	Pot. decreasing; >GW-2 (2025); core well; trend understood
	Core	tCE	100	451	2,243	451	100	7	4/4/2024	2/3/2026	0.23	>0.2	Decreasing	NS	NA	NA	Not Yet	MW-104R was installed 2 feet deeper (as the result of change in grade) & 25 ft S of MW-104; Located near GLX Vault; Dataset = 7 records	Pot. decreasing; TCE >GW-2 (2025); core well; trend understood

Appendix G-5 Linear Regression Analysis
Table 1A. Results of Linear Regression Statistical Analysis
50 Tufts Street, Somerville, Massachusetts
UniFirst Corporation

Well	Location	Constituent	Screening Level (ug/L)[1]	Data Range							Linear Regression Analysis						Date Data 1st Drops <SL w/o Rebound	Notes[5]	Conclusions
				Minimum Concentration (ug/L)	Maximum Concentration (ug/L)	Most Recent Concentration (ug/L)	% Data Above Lab Reporting Limit[2]	# of Records in Dataset	Start Date	End Date	Coefficient of Determination, R-squared (R^2)	p-value of Correlation (Significance of Slope)	Trend Direction[3]	Est. Degree of Trend Correlation[4]	Attenuation Half-life (days)	Projected Year to Screening Level			
MW105	Upgradient	PCE	20	1	7.8	0.53	22	18	5/24/2006	4/23/2013	0.14	0.13	Decreasing	Weak	2,401	NA	Never Above	>75% of data set is <DLs; well no longer exists	Decreasing trend; <GW-2 throughout; no recent data
	Upgradient	tCE	100	0.78	7.8	2.1	100	18	5/24/2006	4/23/2013	0.19	0.068	Decreasing	Weak	2,136	NA	Never Above	Well no longer exists	Decreasing trend; deg. prods. <GW-2 throughout; no recent data
MW106	Perimeter	PCE	20	0.44	2.3	1	70	10	1/18/2007	2/3/2026	<0.1	>0.2	No Trend	NS	NA	NA	Never Above		Stable; <GW-2 throughout; perimeter well
	Perimeter	tCE	100	2.4	12	2.4	100	10	1/18/2007	2/3/2026	0.63	0.0063	Decreasing	Moderate	4,542	NA	Never Above		Moderate decreasing trend; deg. prods. <GW-2 throughout; perimeter well
MW107	Perimeter	PCE	20	1	1	1	0	10	1/18/2007	2/4/2026	--	--	No Trend	--	--	NA	Never Above	All data is below DLs	Stable; <GW-2 throughout; all data is ND; perimeter well
	Perimeter	tCE	100	1	3.7	1	40	10	1/18/2007	2/5/2026	0.35	0.074	Decreasing	Weak	7,404	NA	Never Above	>75% of data set is <DLs	Decreasing trend; deg. prods. <GW-2 & ND throughout (except 1,1-DCE); perimeter well
MW108	Perimeter	PCE	20	0.60	1	1	9	11	1/18/2007	2/4/2026	<0.1	>0.2	No Trend	NS	NA	NA	Never Above	>75% of data set is <DLs	Stable; <GW-2 throughout; ND since 2008; perimeter well
	Perimeter	tCE	100	0.60	1	1	9	11	1/18/2007	2/4/2026	<0.1	>0.2	No Trend	NS	NA	NA	Never Above	>75% of data set is <DLs	Stable; deg. prods. <GW-2 & ND throughout; perimeter well
MW109	Core	PCE	20	5	178	17	100	6	1/18/2007	11/13/2025	0.49	0.12	Decreasing	Moderate	2,896	2016	2008	Dataset = 6 records	Moderate decreasing trend; <GW-2 since 2008
	Core	tCE	100	5	183	18	100	6	1/18/2007	11/13/2025	0.48	0.13	Decreasing	Moderate	2,906	NA	2007	Dataset = 6 records; although above SL once in 2007, the trend line was calculated to be below SL throughout dataset	Moderate decreasing trend; deg. prods. <GW-2 throughout
MW111/MW111R	Core	PCE	20	5	13,700	4.5	100	10	1/18/2007	2/4/2026	0.91	0.000020	Decreasing	Strong	858	2026	2026	Dataset = 8 records; MW-111R was screened 1 foot deeper & is 20 ft SW of MW-111	Strong decreasing trend; <GW-2 (2026)
	Core	tCE	100	5	13,890	4.5	100	10	1/18/2007	2/4/2026	0.90	0.000029	Decreasing	Strong	872	2021	2025	Dataset = 8 records; MW-111R was screened 1 foot deeper & is 20 ft SW of MW-111	Strong decreasing trend; deg. prods. <GW-2 since 2025
MW112A	Core	PCE	20	144	908	420	100	44	3/23/2007	2/3/2026	0.19	0.0028	Increasing	Weak	NA	NA	NA	Core well	Increasing trend; >GW-2 (2026); core well
	Core	tCE	100	178	1,403	661	100	44	3/23/2007	2/3/2026	<0.1	0.039	Increasing	NS	NA	NA	NA	Core well	Pot. increasing trend; deg. prods. >GW-2 (2026); core well
MW113	Perimeter	PCE	20	0.42	1	1	17	6	2/20/2007	4/15/2008	<0.1	>0.2	No Trend	NS	NA	NA	Never Above	Dataset = 6 records; >75% of data set is <DLs; well no longer exists	Stable; <GW-2 throughout; ND in 2008; no recent data; perimeter well
	Perimeter	tCE	100	0.38	1	0.38	50	6	2/20/2007	4/15/2008	0.36	>0.2	Decreasing	NS	NA	NA	Never Above	Dataset = 6 records; well no longer exists	Pot. decreasing trend; deg. prods. <GW-2 throughout; no recent data; perimeter well
MW114	Upgradient	PCE	20	1	1	1	0	6	2/20/2007	4/17/2008	--	--	No Trend	--	--	NA	Never Above	Dataset = 6 records; all data is below DLs; well no longer exists	Stable; <GW-2 throughout; all data ND; no recent data; upgradient well
	Upgradient	tCE	100	1	1	1	0	6	2/20/2007	4/17/2008	--	--	No Trend	--	--	NA	Never Above	Dataset = 6 records; all data is below DLs; well no longer exists	Stable; deg. prods. <GW-2 throughout; all data ND; no recent data; upgradient well
MW115/MW115R	Upgradient	PCE	20	1	1	1	0	9	3/23/2007	11/13/2025	--	--	No Trend	--	--	NA	Never Above	Dataset = 9 records; all data is below DLs	Stable; <GW-2 throughout; all data ND; upgradient well
	Upgradient	tCE	100	1	1	1	0	9	3/23/2007	11/13/2025	--	--	No Trend	--	--	NA	Never Above	Dataset = 9 records; all data is below DLs	Stable; deg. prods. <GW-2 throughout; all data ND; upgradient well
MW116	Core	PCE	20	32	1,180	185	100	30	3/23/2007	2/4/2026	0.13	0.052	Decreasing	Weak	5,313	2075	Not Yet	Core well Add'l LR Analysis performed on data 2009-present (see Appendix C & Conclusions column)	Decreasing; >GW-2 (2026); core well; variability in early data: decreasing trend 2009 on (with projected year to SL=2075)
	Core	tCE	100	79	1,764	310	100	30	3/23/2007	2/4/2026	0.16	0.029	Decreasing	Weak	6,193	2061	Not Yet	Core well Add'l LR Analysis performed on data 2009-present (see Appendix C & Conclusions column)	Decreasing; deg. prods. >GW-2 (2026); core well; variability in early data: decreasing trend 2009 on (with projected year to SL=2061)
MW117D	Perimeter	PCE	30,000	0.54	1	1	4	28	7/19/2007	2/2/2026	<0.1	>0.2	No Trend	NS	NA	NA	Never Above	>75% of data set is <DLs; deep well	Stable; <GW-3 throughout; ND since 2007; perimeter well
	Perimeter	tCE	1,000	0.54	1	1	4	28	7/19/2007	2/2/2026	<0.1	>0.2	No Trend	NS	NA	NA	Never Above	>75% of data set is <DLs; deep well	Stable; deg. prods. <GW-3 & ND throughout; perimeter well
MW117S	Perimeter	PCE	20	1	1	1	0	28	7/18/2007	2/2/2026	--	--	No Trend	--	--	NA	Never Above	All data is below DLs	Stable; <GW-2 throughout; all data ND; perimeter well
	Perimeter	tCE	100	1	1	1	0	28	7/18/2007	2/2/2026	--	--	No Trend	--	--	NA	Never Above	All data is below DLs	Stable; deg. prods. <GW-2 throughout; all data ND; perimeter well
MW117T	Perimeter	PCE	30,000	1	1.3	1	4	28	7/19/2007	2/2/2026	<0.1	>0.2	No Trend	NS	NA	NA	Never Above	>75% of data set is <DLs; deep well	Stable; <GW-3 throughout; ND since 2020; perimeter well
	Perimeter	tCE	1,000	1	1.3	1	4	28	7/19/2007	2/2/2026	<0.1	>0.2	No Trend	NS	NA	NA	Never Above	>75% of data set is <DLs; deep well	Stable; deg. prods. <GW-3 & ND throughout; perimeter well

Appendix G-5 Linear Regression Analysis
Table 1A. Results of Linear Regression Statistical Analysis
50 Tufts Street, Somerville, Massachusetts
UniFirst Corporation

Well	Location	Constituent	Screening Level (ug/L)[1]	Data Range							Linear Regression Analysis						Date Data 1st Drops <SL w/o Rebound	Notes[5]	Conclusions
				Minimum Concentration (ug/L)	Maximum Concentration (ug/L)	Most Recent Concentration (ug/L)	% Data Above Lab Reporting Limit[2]	# of Records in Dataset	Start Date	End Date	Coefficient of Determination, R-squared (R^2)	p-value of Correlation (Significance of Slope)	Trend Direction[3]	Est. Degree of Trend Correlation[4]	Attenuation Half-life (days)	Projected Year to Screening Level			
MW118D	Perimeter	PCE	30,000	1	50	3	79	42	7/20/2007	2/2/2026	<0.1	0.16	Decreasing	NS	5,888	NA	Never Above	Deep well	Pot. decreasing; <GW-3 throughout; perimeter well
	Perimeter	tCE	1,000	1.3	124	8.9	98	42	7/20/2007	2/2/2026	<0.1	>0.2	No Trend	NS	NA	NA	Never Above	Deep well	Stable; deg. prods. <GW-3 throughout; perimeter well
MW118S	Perimeter	PCE	20	0.29	1	1	11	28	7/20/2007	2/2/2026	<0.1	>0.2	No Trend	NS	NA	NA	Never Above	>75% of data set is <DLs	Stable; <GW-2 throughout; ND since 2018; perimeter well
	Perimeter	tCE	100	0.29	1	1	11	28	7/20/2007	2/2/2026	<0.1	>0.2	No Trend	NS	NA	NA	Never Above	>75% of data set is <DLs	Stable; deg. prods. <GW-3 & ND throughout; perimeter well
MW118T	Perimeter	PCE	30,000	1	3.8	1	76	29	7/20/2007	2/2/2026	0.74	0.0000000019	Decreasing	Strong	4,313	NA	Never Above	Deep well	Strong decreasing trend, <GW-3 throughout; ND since 2024; perimeter well
	Perimeter	tCE	1,000	1	6.1	1	76	29	7/20/2007	2/2/2026	0.68	0.000000032	Decreasing	Moderate	3,992	NA	Never Above	Deep well	Moderate decreasing trend; deg. prods. < GW-3 throughout; ND since 2018; perimeter well
MW119S	Perimeter	PCE	20	1	1.5	1	4	28	8/22/2007	2/4/2026	<0.1	>0.2	No Trend	NS	NA	NA	Never Above	>75% of data set is <DLs	Stable; <GW-2 throughout; ND since 2012; perimeter well
	Perimeter	tCE	100	1	1.5	1	4	28	8/22/2007	2/4/2026	<0.1	>0.2	No Trend	NS	NA	NA	Never Above	>75% of data set is <DLs	Stable; deg. prods. <GW-3 & ND throughout; perimeter well
MW119T	Perimeter	PCE	30,000	1.7	105	28	100	28	8/22/2007	2/4/2026	0.55	0.0000063	Decreasing	Moderate	1,748	NA	Never Above	Deep well	Moderate decreasing trend; <GW-3 throughout; perimeter well
	Perimeter	tCE	1,000	3.0	142	38	100	28	8/22/2007	2/4/2026	0.56	0.0000048	Decreasing	Moderate	1,873	NA	Never Above	Deep well	Moderate decreasing trend; deg. prods. <GW-3 throughout; perimeter well
MW120D	Perimeter	PCE	30,000	4.7	131	11	100	28	8/22/2007	2/4/2026	0.75	0.0000000023	Decreasing	Strong	1,696	NA	Never Above	Deep well	Strong decreasing trend; <GW-3 throughout; perimeter well
	Perimeter	tCE	1,000	7.9	194	16	100	28	8/22/2007	2/4/2026	0.76	0.0000000018	Decreasing	Strong	1,732	NA	Never Above	Deep well	Strong decreasing trend; deg. prods. <GW-3 throughout; perimeter well
MW120S	Perimeter	PCE	20	0.71	1	1	7	28	8/22/2007	2/4/2026	<0.1	>0.2	No Trend	NS	NA	NA	Never Above	>75% of data set is <DLs	Stable; deg. prods. <GW-2 throughout; ND since 2009; perimeter well
	Perimeter	tCE	100	0.71	1.4	1	7	28	8/22/2007	2/4/2026	<0.1	>0.2	No Trend	NS	NA	NA	Never Above	>75% of data set is <DLs	Stable; deg. prods. <GW-2 throughout; ND since 2009; perimeter well
MW121D	Perimeter	PCE	30,000	1	356	10	98	40	10/22/2007	2/3/2026	0.52	0.00000016	Decreasing	Moderate	1,386	NA	Never Above	Deep well	Moderate decreasing trend; <GW-3 throughout; perimeter well
	Perimeter	tCE	1,000	4.8	1,071	43	100	40	10/22/2007	2/3/2026	0.51	0.00000023	Decreasing	Moderate	1,707	NA	2015	Deep well; although above SL once in 2014, the trend line was calculated to be below SL throughout dataset	Moderate decreasing trend; deg. prods. <GW-3 throughout; perimeter well
MW121S	Perimeter	PCE	20	1	1	1	0	27	10/22/2007	2/3/2026	--	--	No Trend	--	--	NA	Never Above	All data is below DLs	Stable; <GW-2 throughout; all data ND; perimeter well
	Perimeter	tCE	100	1	1	1	0	27	10/22/2007	2/3/2026	--	--	No Trend	--	--	NA	Never Above	All data is below DLs	Stable; deg. prods. <GW-2 throughout; all data ND; perimeter well
MW122	Core	PCE	20	42	1,700	90	100	42	1/30/2008	2/4/2026	<0.1	>0.2	No Trend	NS	NA	NA	NA	Core well	Stable >GW-2 (2026); core well
	Core	tCE	100	181	2,040	181	100	42	1/30/2008	2/4/2026	<0.1	>0.2	No Trend	NS	NA	NA	NA	Core well	Stable; deg. prods. >GW-2 (2026); core well
MW201	Core	PCE	20	4.8	26	8.5	100	8	7/19/2007	2/3/2026	0.21	>0.2	Decreasing	NS	NA	NA	2008	Dataset = 8 records; although above SL once in 2007, the trend line was calculated to be below SL throughout dataset	Pot. decreasing trend; <GW-2 since 2008
	Core	tCE	100	8.2	39	11	100	8	7/19/2007	2/3/2026	0.60	0.023	Decreasing	Moderate	5,401	NA	2024	Dataset = 8 records	Moderate decreasing trend; deg. prods. <GW-2 since 2024
MW202	Core	PCE	20	5.4	87	20	100	28	7/19/2007	2/3/2026	0.30	0.0023	Decreasing	Weak	4,248	2020	2026		Decreasing; <GW-2 since 2020, except for one event in 2025
	Core	tCE	100	5.4	110	20	100	28	7/19/2007	2/3/2026	0.36	0.00074	Decreasing	Weak	3,615	NA	2012	Although above SL once in 2011, the trend line was calculated below SL throughout dataset	Decreasing; deg. prods. <GW-2 since 2012 & ND since 2020
MW203/MW203R	Core	PCE	20	5,000	15,500	5,500	100	6	7/19/2007	2/3/2026	0.91	0.0030	Decreasing	Strong	5,254	2143	Not Yet	Dataset = 6 records; MW-203R was screened 7 feet deeper & is 7 ft S-SW of MW-203; Located near GLX Vault	Strong decreasing trend; >GW-2 (2026); core well (w/proj. year to SL = 2143)
	Core	tCE	100	5,120	16,659	5,587	100	6	7/19/2007	2/3/2026	0.92	0.0024	Decreasing	Strong	4,970	2105	Not Yet	Dataset = 6 records; MW-203R was screened 7 feet deeper & is 7 ft S-SW of MW-203; Located near GLX Vault	Strong decreasing trend; TCE >GW-2 (2026); core well (w/proj. year to SL = 2105)
SHMW1	Source	PCE	20	16,200	48,900	48,900	100	5	7/8/2002	4/12/2007	0.24	>0.2	Increasing	NS	NA	NA	NA	Dataset = 5 records; Well no longer exists	Pot. increasing trend; >GW-2 (2007) but short dataset w/no recent data (well no longer exists); core well; data nearby (incl. GEO-4 & MW109) suggest decreasing trend
	Source	tCE	100	16,355	49,086	49,086	100	5	7/8/2002	4/12/2007	0.25	>0.2	Increasing	NS	NA	NA	NA	Dataset = 5 records; Well no longer exists	Pot. increasing trend; TCE & VC >GW-2 (2007) but short dataset w/no recent data (well no longer exists); core well; data nearby (incl. GEO-4 & MW109) suggest dec. trend

Appendix G-5 Linear Regression Analysis
Table 1A. Results of Linear Regression Statistical Analysis
50 Tufts Street, Somerville, Massachusetts
UniFirst Corporation

Well	Location	Constituent	Screening Level (ug/L)[1]	Data Range							Linear Regression Analysis						Date Data 1st Drops <SL w/o Rebound	Notes[5]	Conclusions
				Minimum Concentration (ug/L)	Maximum Concentration (ug/L)	Most Recent Concentration (ug/L)	% Data Above Lab Reporting Limit[2]	# of Records in Dataset	Start Date	End Date	Coefficient of Determination, R-squared (R^2)	p-value of Correlation (Significance of Slope)	Trend Direction[3]	Est. Degree of Trend Correlation[4]	Attenuation Half-life (days)	Projected Year to Screening Level			
SHMW2/SHMW2R	Source	PCE	20	365	7,190	3,900	100	14	7/8/2002	2/5/2026	<0.1	>0.2	No Trend	NS	NA	NA	Not Yet	SH-MW2R was screened 10-23 ft bgs while SH-MW2 was screened 10-25 ft bgs; Located near GLX Vault	Stable; >GW-2 (2026); core well; trend understood
	Source	tCE	100	381	7,767	3,953	100	14	7/8/2002	2/5/2026	<0.1	>0.2	No Trend	NS	NA	NA	Not Yet	SH-MW2R was screened 10-23 ft bgs while SH-MW2 was screened 10-25 ft bgs; Located near GLX Vault	Stable; TCE >GW-2 (2026); core well; trend understood
SHMW3	Source	PCE	20	7,310	34,000	12,800	100	12	7/8/2002	4/2/2015	0.50	0.0098	Decreasing	Moderate	2,921	2087	Not w/in Dataset	Well no longer exists	Moderate decreasing trend; >GW-2 (2015); core well; well no longer exists
	Source	tCE	100	7,462	35,162	13,046	100	12	7/8/2002	4/2/2015	0.51	0.0091	Decreasing	Moderate	2,866	2068	Not w/in Dataset	Well no longer exists	Moderate decreasing trend; TCE & cis-DCE >GW-2 (2015); core well; well no longer exists

Total # Tests Decreasing:	51
Total # Tests Stable ("No Trend"):	31
Total # Tests Increasing:	6
Total # LR Tests performed:	88

Max Year:	2173

Notes, Abbreviations and Assumptions:

Core wells include both source area wells (GEO-1, GEO-2, MW-1, MW-3, SH-MW1, SH-MW2/MW2R, and SH-MW3) and plume wells (GEO-3, GEO-4, GEO-5, GEO-6, MW-101, MW-102, MW-103, MW-104, MW-104R, MW-109, MW-111/MW-111R, MW-112A, MW-116, MW-122, MW-201, MW-202, and MW-203/MW-203R). Perimeter wells include down/side gradient wells (MW-106, MW-107, MW-108, MW-113, MW-117S, MW-117D, MW-117T, MW-118D, MW-118S, MW-118T, MW-119S, MW-119T, MW-120D, MW-120S, MW121S, and MW-121D). Upgradient wells are MW-105, MW-114, and MW-115.

Abbreviations:
ug/L = micrograms per liter
SL = screening level
TCE = trichloroethene
cis-DCE = cis-1,2-dichloroethene
trans-DCE = trans-1,2-dichloroethene
1,1-DCE = 1,1,-dichloroethylene
VC = vinyl chloride
1,1,1-TCA = 1,1,1-trichloroethane
1,1-DCA = 1,1-dichloroethane
1,2-DCA = 1,2-dichloroethane
tCE = total chlorinated ethenes (total of the following chlorinated ethenes, when detected: PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, and VC)
tCA = total chlorinated ethanes (total of the following chlorinated ethanes, when detected: 1,1,1-TCA, 1,2-DCA, 1,1-DCA, and chloroethane)

ND = not detected above laboratory reporting limit (RL)
SL = screening level
-- = Not calculated because all data is below detection limits
NA = not applicable due to increasing trend or no apparent trend; or in the case of "Projected Year to Screening Level," the concentration may already be below the Screening Level
NS = a significant trend correlation was not identified; therefore, half-life and projection to meet screening levels were not calculated (see also note 4 at right)
Underlined data = value not detected at concentration greater than listed reporting limit
When duplicates were analyzed, average of parent and duplicate was used as the resulting concentration in trend analysis; if a duplicate result was a non-detect, half the other (detected) value was used as the average

Color Coding:

Column ID:	Green	Yellow	Red
Trend Direction	- Decreasing trend	- No trend	- Increasing trend
Projected Year to SL (calculated)	- Already met SL - Projected to have already met SL[1]	- Decreasing trend, not yet below SL but projected to be in future - No trend or insignificant decreasing trend w/no current data & last reported above SLs	- No trend & above SL during most recent event - Increasing trends
Date Data 1st Drops <SL w/o Rebound	- Data have never been above SL - Data below SL have been collected / reported during most recent event(s)	- Decreasing trend but data below SL have not been collected/reported	
Conclusions[2]	- Already met SL - Expected to meet SL in reasonable time	- Uncertain conditions / timing - Stable or Increasing trend where reason(s) known	- Above SL during most recent event - Increasing trends

[1]Where a decreasing trend was calculated using available data, but current data does not exist.
[2]Shading represents qualitative understanding of degradation conditions at each well.

[1] Massachusetts Contingency Plan Method 1 Standards (310 CMR 40.0974) are used as screening values (SV) for individual CVOCs in this evaluation. Method 1 GW-2 standards were used to screen shallow wells and Method 1 GW-3 standards were used to screen deep wells. For total chlorinated ethenes and ethanes, SVs of 100 and 2000 ppb, respectively, were used for shallow wells, and 1,000 ppb was used for total chlorinated ethenes in deep wells, because no Method 1 exists for these CVOC sums. Wells with unknown screened intervals (i.e., MW-1 and MW-3) were conservatively assumed to be shallow.
[2] tCE and tCA (i.e., total of detected concentrations as defined to the left) is considered above the reporting limit if at least one of the CVOCs has been detected.
[3] Linear regression analyses with R2 values ≤0.1 *and* p-values >0.2 were defined as having no apparent trend (No Trend); otherwise, the analysis was defined as having a trend (Increasing where slope is positive and Decreasing where slope is negative)
[4] Estimated correlations are provided when both p-value is ≤ 0.2 *and* R-squared value is ≥ 0.1. NS indicates no significant trend correlation was identified (i.e., p-value is ≥ 0.2 and/or R-squared value is < 0.1). "Strong" correlation is defined as an R-squared value ≥ 0.7; "Moderate" is defined as R-squared value < 0.7 but ≥ 0.45; and "Weak" defined as R-squared value < 0.45 but ≥ 0.1
[5] Notes clarifications:
-When less than 75% of the data set represent detected data ("<75% of data set is >DLs") or the sample size is less than 10 records, the resulting outcomes (trends) are less confident
-When the entire dataset represents results below detection limits, a linear regression analysis returns a "No Trend" result

Statistical Definitions:
p-value ("probability value") definition: Ranging in value from 0 to 1, the p-value measures how likely it is that the observed results could have occurred by chance alone (i.e., a "null hypothesis"). A low p-value suggests that the observed data is unlikely to have occurred under the null hypothesis. As such, the lower the p-value, the better the chances that the trend being tested for does exist. A pre-determined significance level is often set to decide whether to reject the null hypothesis. For this linear regression analysis, the significance level is set to 80%. As such, if the p-value is less than 0.2 (i.e., inverse of significance level in decimal format), the trend result is considered statistically significant.
R-squared ("Coefficient of Determination") definition: Ranging in value from 0 to 1, the R-squared measures how well a regression model fits the data. It calculates the proportion of variance in a dependent variable that can be explained by the independent variable. The higher the R-squared, the better the model fits the data (i.e., the tighter the grouping of actual data points along the calculated trend line). Because variability is particularly inherent to environmental sampling, a minimum R-squared of 0.1 has been considered statistically significant with a "weak" correlation for this linear regression analysis, as further described above.

Appendix G-5 Linear Regression Analysis
Table 1B. Linear Regression Statistical Analysis Summary
50 Tufts Street, Somerville, Massachusetts
UniFirst Corporation

COC	Wells Included in LR Analysis [1]		Wells with Decreasing Trends[2]						STABLE[3] (Wells with No Statistical Trends)[3]		Wells with Increasing Trends[2]					
			Decreasing Trends with Strong Correlation	Decreasing Trends with Moderate Correlation	Decreasing Trends with Weak Correlation	Wells with Insignificant Decreasing Trends	TOTAL DECREASING TRENDS				Increasing Trends with Strong Correlation	Increasing Trends with Moderate Correlation	Increasing Trends with Weak Correlation	Wells with Insignificant Increasing Trends	TOTAL INCREASING TRENDS	
	Count	*%*	*Count*	*Count*	*Count*	*Count*	*Count*	*%*	*Count*	*%*	*Count*	*Count*	*Count*	*Count*	*Count*	*%*
Total																
PCE	43 of 50	86%	5	9	4	5	23	53%	17	40%	0	1	1	1	3	7%
tCE	43 of 50	86%	5	13	4	4	26	60%	14	33%	0	1	0	2	3	7%
tCA	2 of 50	4%	0	1	0	1	2	100%	0	0%	0	0	0	0	0	0%
Source																
PCE	7 of 28	25%	0	3	1	0	4	57%	2	29%	0	0	0	1	1	14%
tCE	7 of 28	25%	0	4	0	1	5	71%	1	14%	0	0	0	1	1	14%
tCA	2 of 28	7%	0	1	0	1	2	100%	0	0%	0	0	0	0	0	0%
Core Plume																
PCE	17 of 28	61%	3	4	2	4	13	76%	2	12%	0	1	1	0	2	12%
tCE	17 of 28	61%	4	5	2	2	13	76%	2	12%	0	1	0	1	2	12%
Perimeter																
PCE	16 of 19	84%	2	2	0	1	5	31%	11	69%	0	0	0	0	0	0%
tCE	16 of 19	84%	1	4	1	1	7	44%	9	56%	0	0	0	0	0	0%
Upgradient																
PCE	3 of 3	100%	0	0	1	0	1	33%	2	67%	0	0	0	0	0	0%
tCE	3 of 3	100%	0	0	1	0	1	33%	2	67%	0	0	0	0	0	0%

Notes

1. Linear regression of tetrachloroethylene (PCE) and total chlorinated ethenes (sum of PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, and VC) was performed on wells with datasets of at least four records. With respect to total chlorinated ethanes (sum of 1,1,1-TCA, 1,2-DCA, 1,1-DCA, and chloroethane), linear regression was performed at wells with datasets of at least four records that had previously exceeded Method 1 GW-2 standards for 1,1,1-trichloroethane at least once. Data are available for 50 total site-related wells. Additional information regarding dataset screening criteria and results is provided in Table 2-1.

2. Linear regression analyses with R-squared values ≤0.1 *and* p-values >0.2 were defined as having no measurable trend; otherwise, the analysis was defined as having a trend (Increasing where slope is positive and Decreasing where slope is negative). Trends with an R-squared value ≤0.1 *or* p-value >0.2 were defined as having an insignificant trend. When both p-value is ≤ 0.2 and R-squared value is ≥ 0.1, the relative degree of correlation between the data points and the trend line was characterized as follows:
   "Strong" correlation is defined as an R-squared value ≥ 0.7;
   "Moderate" is defined as R-squared value < 0.7 but ≥ 0.45; and
   "Weak" is defined as R-squared value < 0.45 but ≥ 0.1
   The 0.2 screening limit for the p-value represents an 80% confidence interval. The minimum 0.1 screening limit for R-squared is the smallest estimated value expected to be indicative of a significant trend. The higher the R-squared value (with a maximum possible of 1), the stronger the correlation between the data points and the trend line.

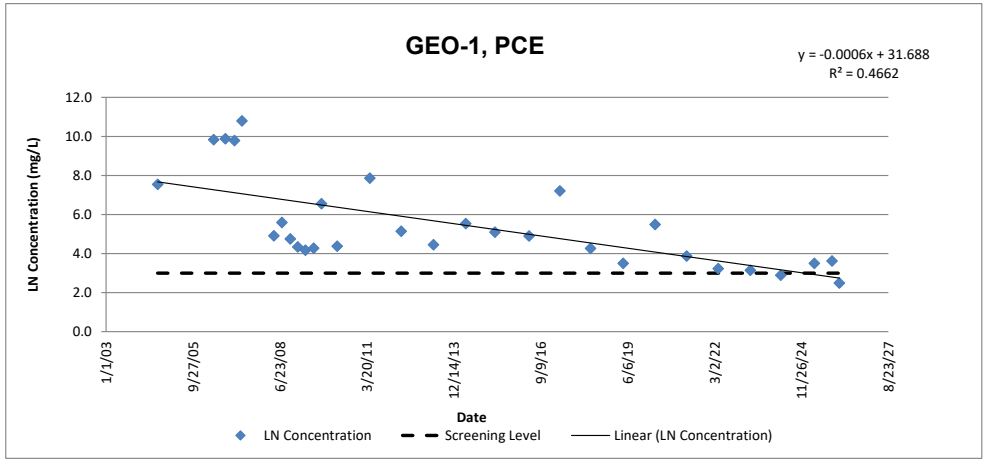
3. Of the 16 wells with no statistical trends, the data for 14 wells have always been below screening levels and/or 75% or more of the dataset is below detection limits (i.e., there is no trend because COCs are not present or are present at very low concentrations). The remaining wells are MW-1, which hasn't been sampled since 2007, and MW-104R, which is located near the GLX vault.

4. Additional information regarding trend calculation results and methods is provided in Table 2-3A.

5. Core wells include both source area wells (GEO-1, GEO-2, MW-1, MW-3, SH-MW1, SH-MW2/MW2R, and SH-MW3) and plume wells (GEO-3, GEO-4, GEO-5, GEO-6, MW-101, MW-102, MW-103, MW-104, MW-104R, MW-109, MW-111/MW-111R, MW-112A, MW-116, MW-122, MW-201, MW-202, and MW-203/MW-203R).
   Perimeter wells down/side gradient wells (MW-106, MW-107, MW-108, MW-113, MW-117S, MW-117D, MW-117T, MW-118D, MW-118S, MW-118T, MW-119S, MW-119T, MW-120D, MW-120S, MW121S, and MW-121D).
   Upgradient wells include MW-105, MW-114, and MW-115.

Sample Information
Sample Location **GEO-1**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/16/04	1880	7.54
5/23/06	18600	9.83
10/5/06	19500	9.88
1/17/07	17650	9.78
4/12/07	48500	10.79
4/15/08	135	4.91
7/15/08	268	5.59
10/21/08	115	4.74
1/13/09	76	4.33
4/13/09	64	4.16
7/15/09	72	4.27
10/14/09	698	6.55
4/13/10	79	4.37
4/22/11	2580	7.86
4/17/12	171	5.14
4/24/13	85	4.44
4/30/14	252	5.53
4/2/15	162	5.09
4/28/16	134	4.90
4/17/17	1340	7.20
4/4/18	71	4.26
4/16/19	33	3.49
4/17/20	240	5.48
4/14/21	48	3.87
4/13/22	25	3.22
4/18/23	23	3.14
4/2/24	18	2.89
4/23/25	33	3.50
11/13/25	37	3.61
2/5/26	12	2.48



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	30
# of nondetects	0
% of data as detects	100

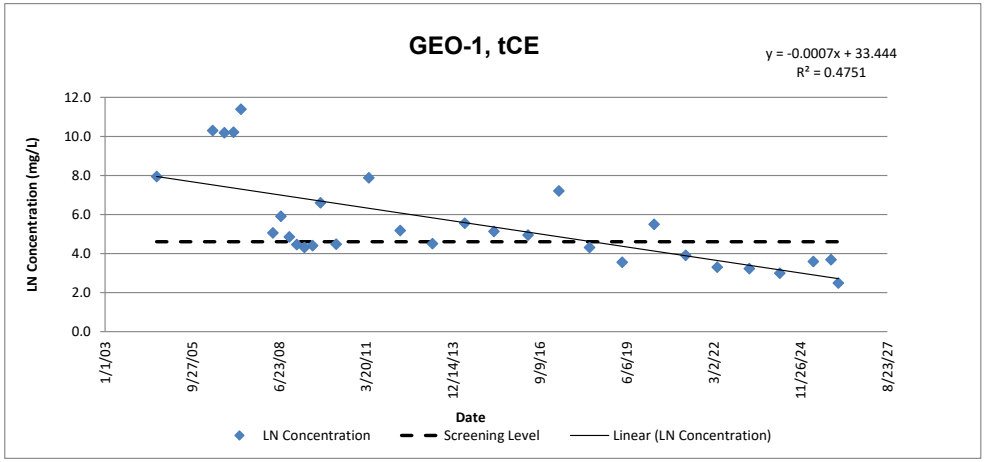
Results		
Coefficient of Determination (R^2) =	0.4662	
p-Value =	3.22E-05	
Attenuation Rate in Groundwater (K) =	0.0006	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0005	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	1.10E+03	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	31.688
Slope	-0.0006
Date to Screening Level	12/29/2024

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **GEO-1**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/16/04	2818	7.94
5/23/06	29593	10.30
10/5/06	26362	10.18
1/17/07	27271	10.21
4/12/07	88089	11.39
4/15/08	157	5.06
7/15/08	366	5.90
10/21/08	127	4.85
1/13/09	86	4.46
4/13/09	74	4.30
7/15/09	82	4.40
10/14/09	731	6.59
4/13/10	87	4.47
4/22/11	2624	7.87
4/17/12	178	5.18
4/24/13	90	4.50
4/30/14	258	5.55
4/2/15	169	5.13
4/28/16	139	4.94
4/17/17	1342	7.20
4/4/18	75	4.31
4/16/19	35	3.55
4/17/20	243	5.49
4/14/21	50	3.91
4/13/22	27	3.30
4/18/23	25	3.22
4/2/24	20	2.99
4/23/25	36.1	3.59
11/13/25	39.5	3.68
2/5/26	12	2.48



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	30
# of nondetects	0
% of data as detects	100

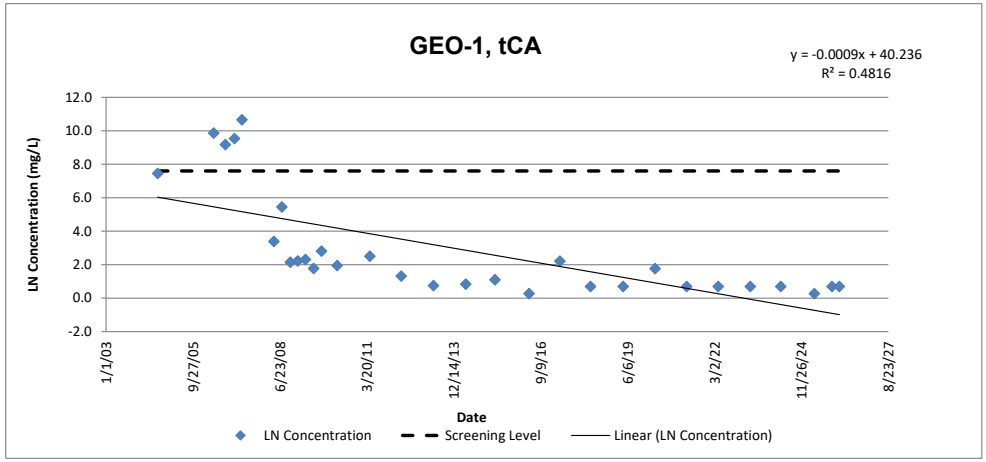
Results		
Coefficient of Determination (R^2) =	0.4751	
p-Value =	2.52E-05	
Attenuation Rate in Groundwater (K) =	0.0007	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0005	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	1.04E+03	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	33.444
Slope	-0.0007
Date to Screening Level	5/3/2018

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **GEO-1**
Constituent tCA

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/16/04	1720	7.45
5/23/06	19104	9.86
10/5/06	9623	9.17
1/17/07	13756	9.53
4/12/07	42512	10.66
4/15/08	30	3.38
7/15/08	231	5.44
10/21/08	8.5	2.14
1/13/09	9.2	2.22
4/13/09	10.0	2.30
7/15/09	5.9	1.77
10/14/09	17	2.81
4/13/10	7.0	1.95
4/22/11	12	2.50
4/17/12	3.7	1.31
4/24/13	2.1	0.74
4/30/14	2.3	0.83
4/2/15	3.0	1.10
4/28/16	1.3	0.26
4/17/17	9.1	2.21
4/4/18	2	0.69
4/16/19	2	0.69
4/17/20	5.8	1.76
4/14/21	2	0.69
4/13/22	2	0.69
4/18/23	2	0.69
4/2/24	2	0.69
4/23/25	1.3	0.26
11/13/25	2	0.69
2/5/26	2	0.69



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	30
# of nondetects	8
% of data as detects	73

Less than 75% data above reporting limits.

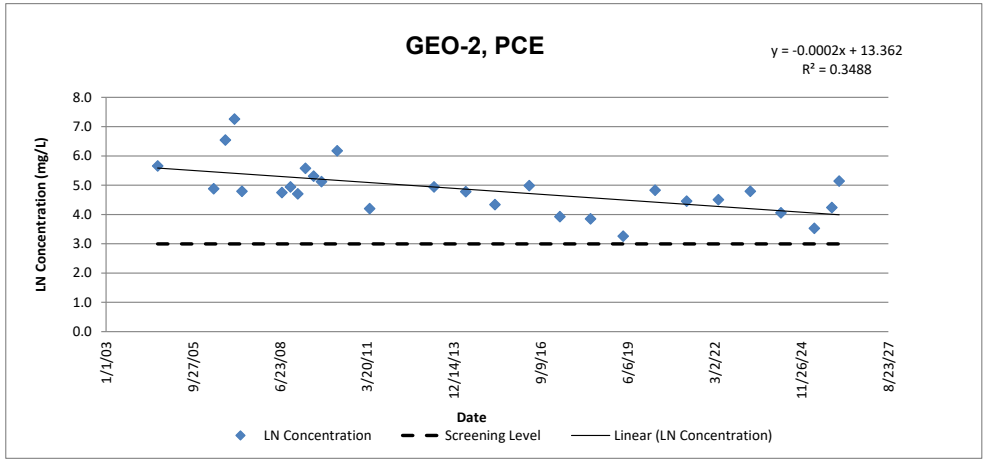
Results		
Coefficient of Determination (R^2) =	0.4816	
p-Value =	2.11E-05	
Attenuation Rate in Groundwater (K) =	0.0009	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0007	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	7.74E+02	days

Date Screening Level Reached	
Screening Level	2,000
LN Screening Level	7.6
Intercept	40.236
Slope	-0.0009
Date to Screening Level	11/1/1999

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **GEO-2**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/16/04	285	5.65
5/23/06	131	4.88
10/5/06	693	6.54
1/17/07	1420	7.26
4/12/07	120	4.79
7/15/08	115	4.74
10/22/08	140	4.94
1/13/09	110	4.70
4/13/09	263	5.57
7/15/09	202	5.31
10/14/09	167	5.12
4/13/10	480	6.17
4/21/11	66	4.20
5/1/13	140	4.94
4/30/14	119	4.78
4/2/15	76	4.33
4/29/16	146	4.98
4/18/17	51	3.93
4/4/18	47	3.85
4/16/19	26	3.26
4/17/20	125	4.83
4/14/21	86	4.45
4/14/22	90	4.50
4/18/23	120	4.79
4/4/24	58	4.05
4/23/25	34	3.53
11/11/25	69	4.23
2/3/26	170	5.14



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	0
% of data as detects	100

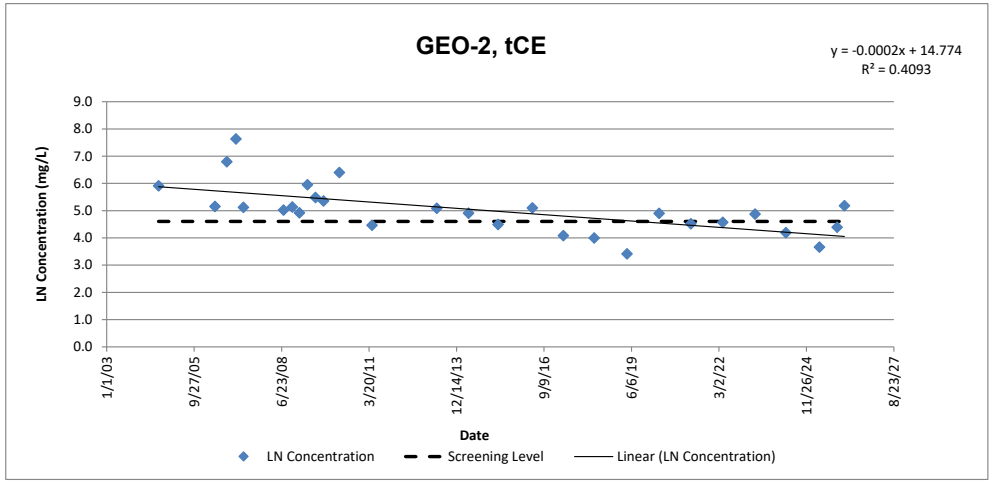
Results		
Coefficient of Determination (R^2) =	0.3488	
p-Value =	9.36E-04	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	3.41E+03	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	13.362
Slope	-0.0002
Date to Screening Level	6/24/2039

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **GEO-2**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/16/04	368	5.91
5/23/06	173	5.15
10/5/06	891	6.79
1/17/07	2056	7.63
4/12/07	168	5.12
7/15/08	151	5.02
10/22/08	169	5.13
1/13/09	137	4.92
4/13/09	383	5.95
7/15/09	240	5.48
10/14/09	211	5.35
4/13/10	600	6.40
4/21/11	87	4.46
5/1/13	162	5.09
4/30/14	135	4.91
4/2/15	89	4.49
4/29/16	163	5.10
4/18/17	59	4.08
4/4/18	54	3.99
4/16/19	30	3.41
4/17/20	134	4.90
4/14/21	92	4.52
4/14/22	97	4.57
4/18/23	130	4.87
4/4/24	66	4.19
4/23/25	39	3.66
11/11/25	81	4.39
2/3/26	178	5.18



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	0
% of data as detects	100

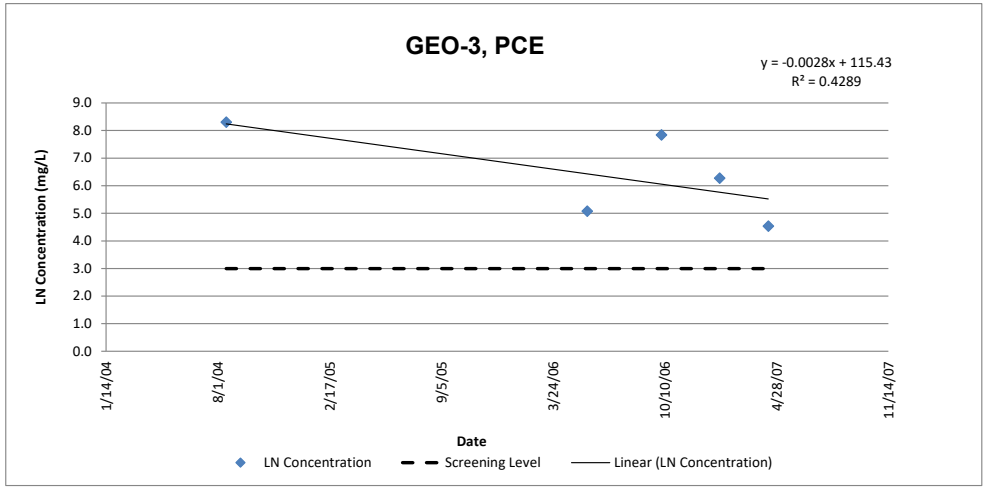
Results		
Coefficient of Determination (R^2) =	0.4093	
p-Value =	2.47E-04	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.00016	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	2.98E+03	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	14.774
Slope	-0.0002
Date to Screening Level	8/9/2019

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **GEO-3**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/16/04	4020	8.30
5/24/06	160	5.07
10/4/06	2530	7.84
1/16/07	529	6.27
4/13/07	93	4.53



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	5
# of nondetects	0
% of data as detects	100

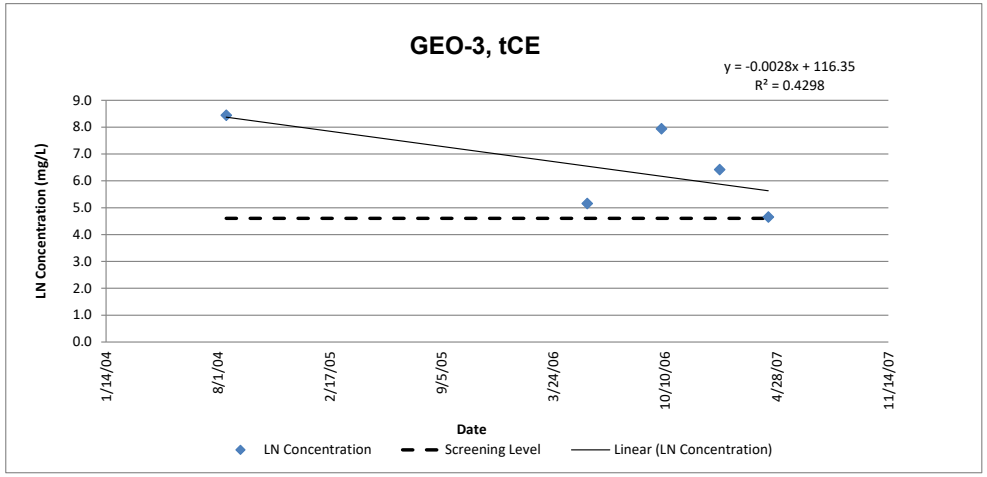
Results		
Coefficient of Determination (R^2) =	0.4289	
p-Value =	2.30E-01	
Attenuation Rate in Groundwater (K) =	0.0028	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0003	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	115.430
Slope	-0.0028
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **GEO-3**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/16/04	4635	8.44
5/24/06	174	5.16
10/4/06	2800	7.94
1/16/07	612	6.42
4/13/07	105	4.65



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	5
# of nondetects	0
% of data as detects	100

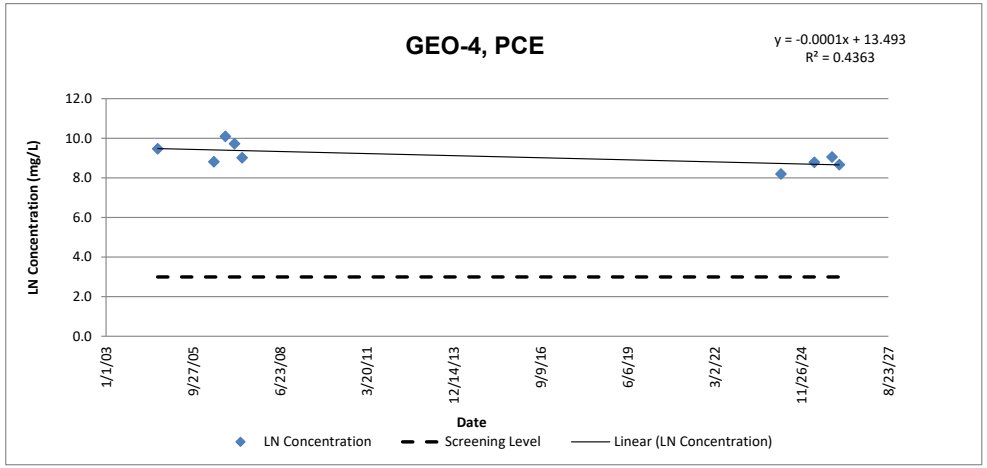
Results		
Coefficient of Determination (R^2) =	0.4298	
p-Value =	2.30E-01	
Attenuation Rate in Groundwater (K) =	0.0028	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0003	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	116.347
Slope	-0.00283
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **GEO-4**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/16/04	12900	9.46
5/24/06	6690	8.81
10/4/06	24100	10.09
1/16/07	16700	9.72
4/16/07	8240	9.02
4/4/24	3600	8.19
4/23/25	6500	8.78
11/12/25	8500	9.05
2/5/26	5800	8.67



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	9
# of nondetects	0
% of data as detects	100

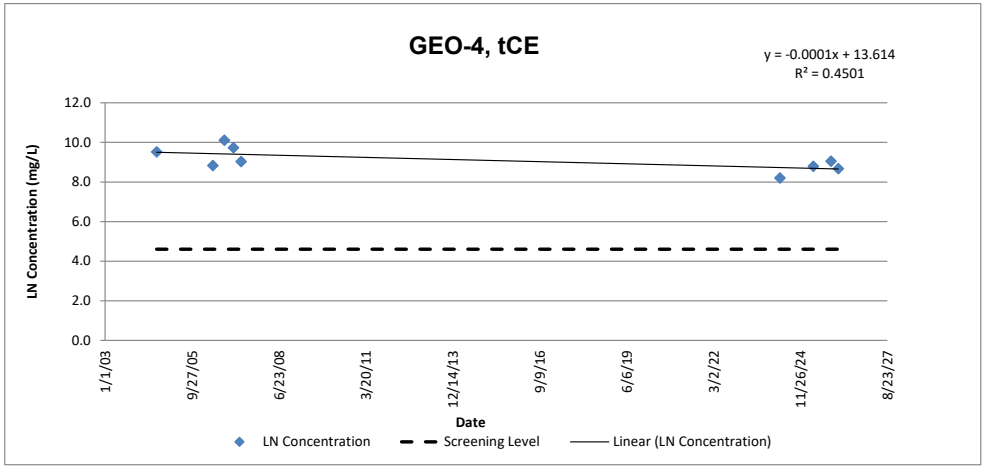
Results		
Coefficient of Determination (R^2) =	0.4363	
p-Value =	5.28E-02	
Attenuation Rate in Groundwater (K) =	0.0001	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	6.60E+03	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	13.493
Slope	-0.0001
Date to Screening Level	8/20/2173

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **GEO-4**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/16/04	13620	9.52
5/24/06	6789	8.82
10/4/06	24370	10.10
1/16/07	16829	9.73
4/16/07	8320	9.03
4/4/24	3626	8.20
4/23/25	6547	8.79
11/12/25	8500	9.05
2/5/26	5800	8.67



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	9
# of nondetects	0
% of data as detects	100

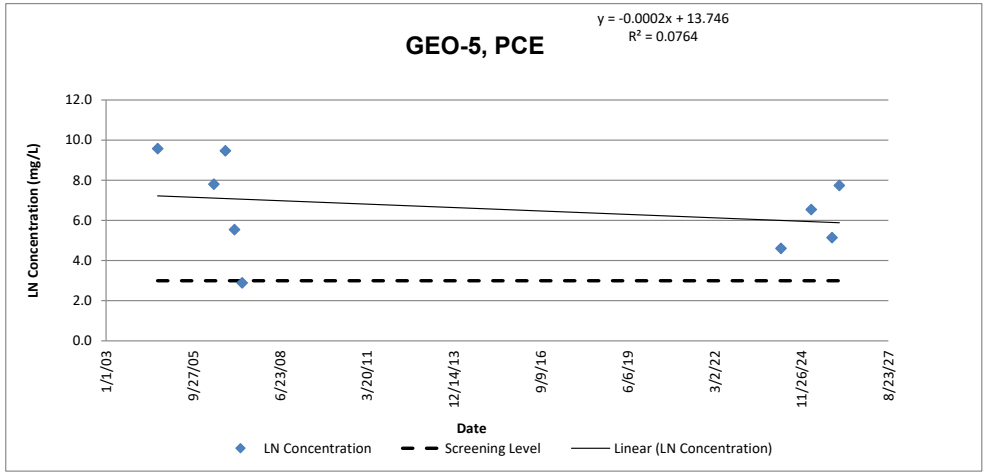
Results		
Coefficient of Determination (R^2) =	0.4501	
p-Value =	4.79E-02	
Attenuation Rate in Groundwater (K) =	0.0001	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	6.44E+03	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	13.614
Slope	-0.0001
Date to Screening Level	3/12/2129

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **GEO-5**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/16/04	14400	9.57
5/24/06	2440	7.80
10/4/06	12900	9.46
1/16/07	254	5.54
4/16/07	18	2.88
4/3/24	100	4.61
3/18/25	690	6.54
11/12/25	170	5.14
2/5/26	2300	7.74



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	9
# of nondetects	0
% of data as detects	100

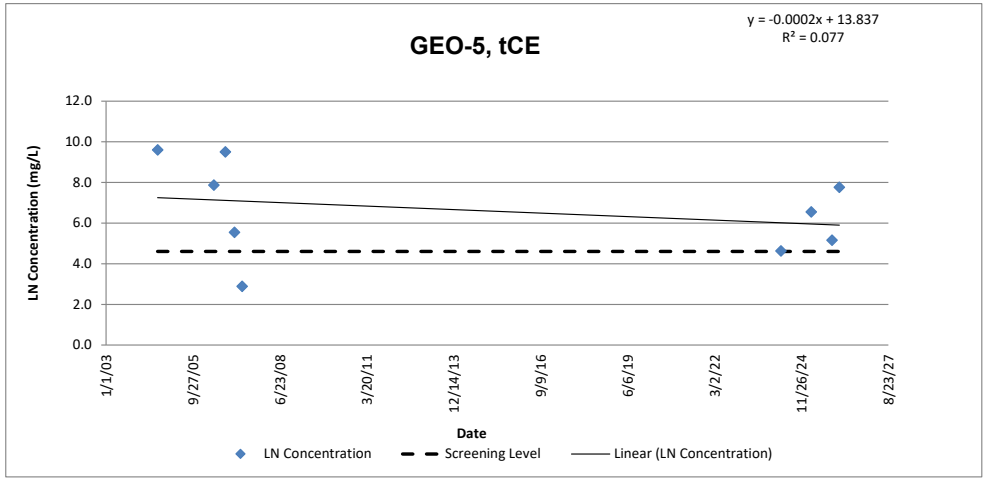
Results		
Coefficient of Determination (R^2) =	0.0764	
p-Value =	4.72E-01	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	13.746
Slope	-0.0002
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **GEO-5**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/16/04	14804	9.60
5/24/06	2607	7.87
10/4/06	13414	9.50
1/16/07	254	5.54
4/16/07	18	2.88
4/3/24	102	4.62
3/18/25	700	6.55
11/12/25	173	5.15
2/5/26	2332	7.75



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	9
# of nondetects	0
% of data as detects	100

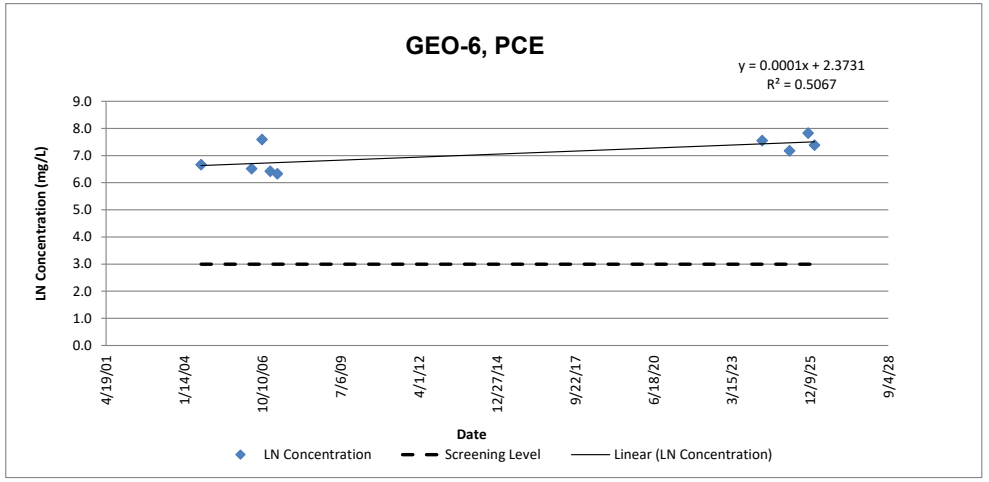
Results		
Coefficient of Determination (R^2) =	0.0770	
p-Value =	4.70E-01	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	13.837
Slope	-0.0002
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **GEO-6**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/16/04	782	6.66
5/24/06	675	6.51
10/4/06	1980	7.59
1/16/07	613	6.42
4/16/07	558	6.32
4/3/24	1900	7.55
3/19/25	1300	7.17
11/12/25	2500	7.82
2/3/26	1600	7.38



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	9
# of nondetects	0
% of data as detects	100

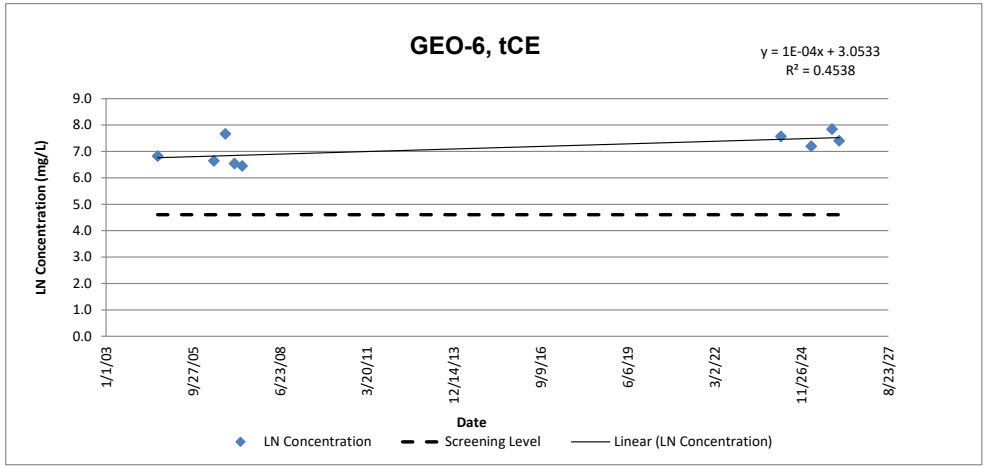
Results		
Coefficient of Determination (R^2) =	0.5067	
p-Value =	3.15E-02	
Attenuation Rate in Groundwater (K) =	-0.0001	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0002	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	2.373
Slope	0.0001
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **GEO-6**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/16/04	919	6.82
5/24/06	768	6.64
10/4/06	2137	7.67
1/16/07	690	6.54
4/16/07	630	6.45
4/3/24	1937	7.57
3/19/25	1335	7.20
11/12/25	2558	7.85
2/3/26	1638	7.40



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	9
# of nondetects	0
% of data as detects	100

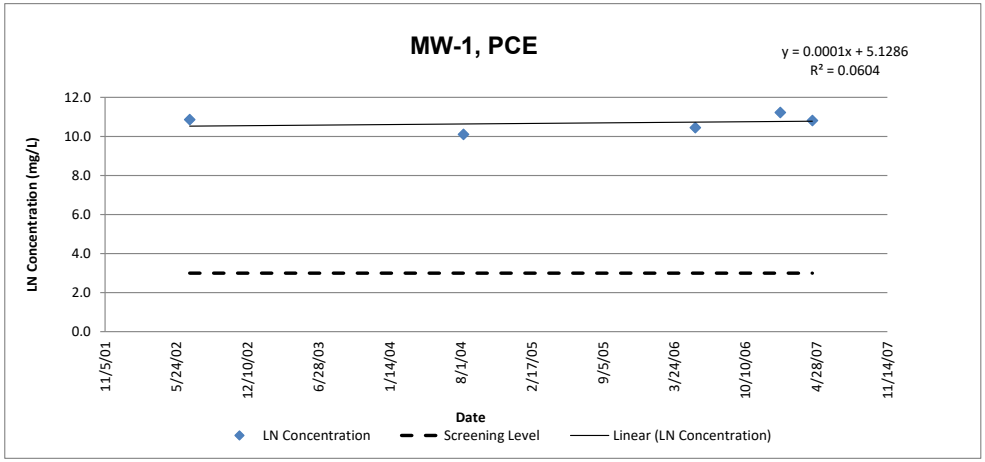
Results		
Coefficient of Determination (R^2) =	0.4538	
p-Value =	4.67E-02	
Attenuation Rate in Groundwater (K) =	-0.0001	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0002	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	3.053
Slope	0.0001
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-1**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/1/02	52000	10.86
8/9/04	24200	10.09
5/23/06	34400	10.45
1/17/07	74900	11.22
4/17/07	49600	10.81



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	5
# of nondetects	0
% of data as detects	100

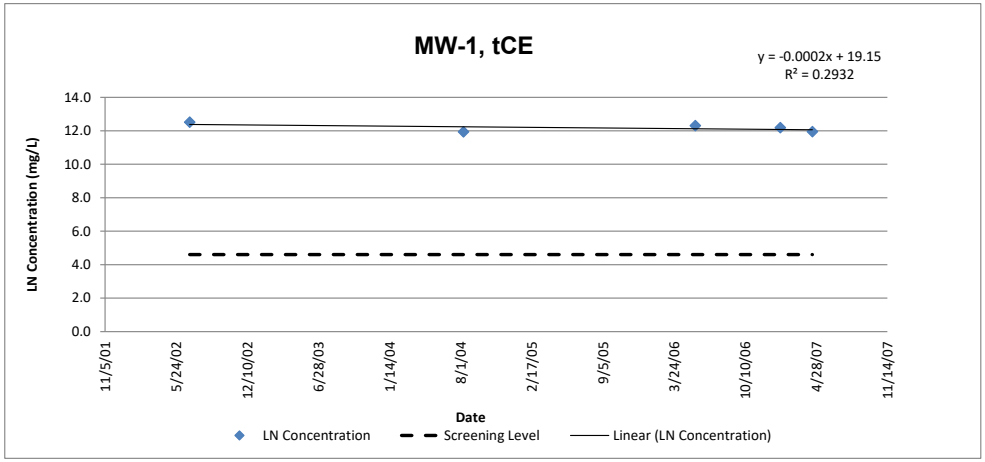
Results		
Coefficient of Determination (R^2) =	0.0604	
p-Value =	6.90E-01	
Attenuation Rate in Groundwater (K) =	-0.0001	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0007	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	5.129
Slope	0.0001
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-1**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/1/02	272000	12.51
8/9/04	152200	11.93
5/23/06	220924	12.31
1/17/07	196169	12.19
4/17/07	154890	11.95



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	5
# of nondetects	0
% of data as detects	100

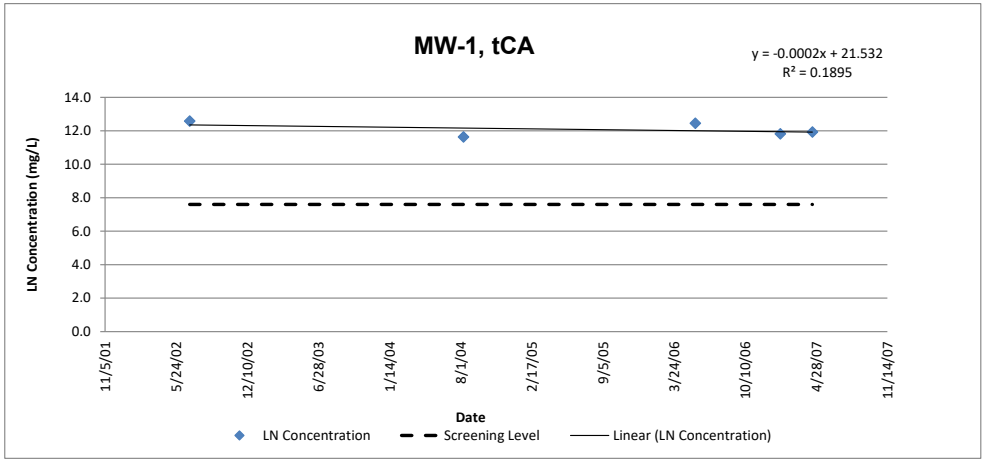
Results		
Coefficient of Determination (R^2) =	0.2932	
p-Value =	3.46E-01	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	19.150
Slope	-0.0002
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-1**
Constituent tCA

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/1/02	290000	12.58
8/9/04	112000	11.63
5/23/06	255000	12.45
1/17/07	135000	11.81
4/17/07	151000	11.93



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	5
# of nondetects	0
% of data as detects	100

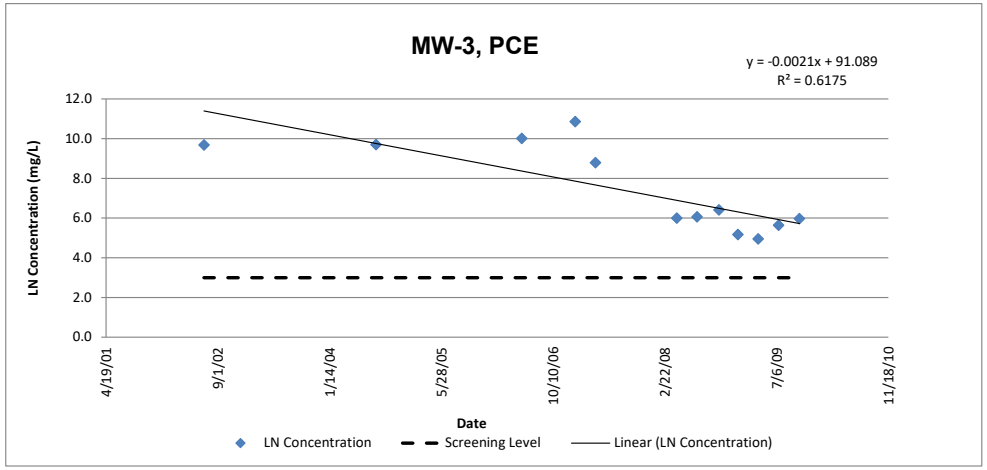
Results		
Coefficient of Determination (R^2) =	0.1895	
p-Value =	4.64E-01	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0002	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	2,000
LN Screening Level	7.6
Intercept	21.532
Slope	-0.0002
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-3**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/1/02	16000	9.68
8/9/04	16200	9.69
5/23/06	22100	10.00
1/17/07	51900	10.86
4/17/07	6550	8.79
4/15/08	400	5.99
7/15/08	427	6.06
10/21/08	606	6.41
1/14/09	176	5.17
4/14/09	141	4.95
7/15/09	280	5.63
10/16/09	391	5.97



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	12
# of nondetects	0
% of data as detects	100

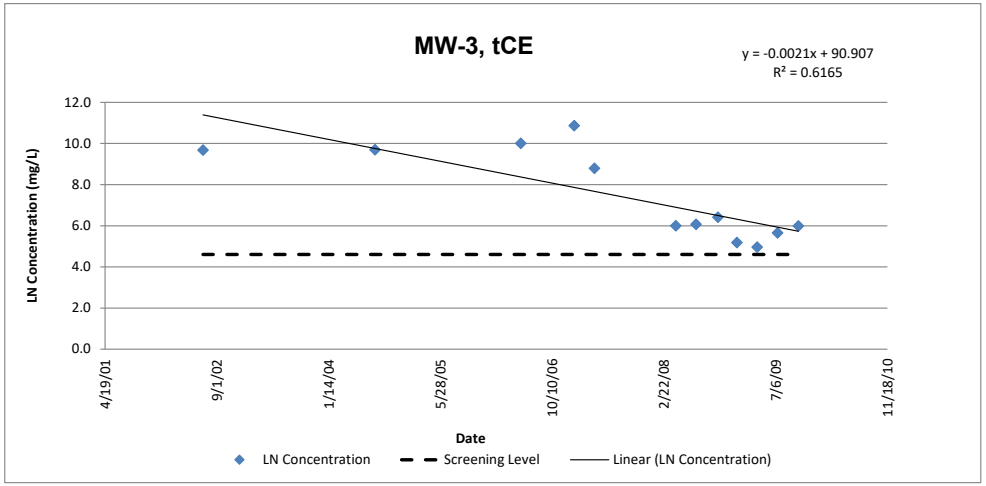
Results		
Coefficient of Determination (R^2) =	0.6175	
p-Value =	2.45E-03	
Attenuation Rate in Groundwater (K) =	0.0021	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0014	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	3.26E+02	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	91.089
Slope	-0.0021
Date to Screening Level	4/19/2013

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-3**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/1/02	16000	9.68
8/9/04	16200	9.69
5/23/06	22194	10.01
1/17/07	52155	10.86
4/17/07	6564	8.79
4/15/08	402	6.00
7/15/08	431	6.07
10/21/08	610	6.41
1/14/09	177	5.18
4/14/09	142	4.96
7/15/09	283	5.65
10/16/09	397	5.98



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	12
# of nondetects	0
% of data as detects	100

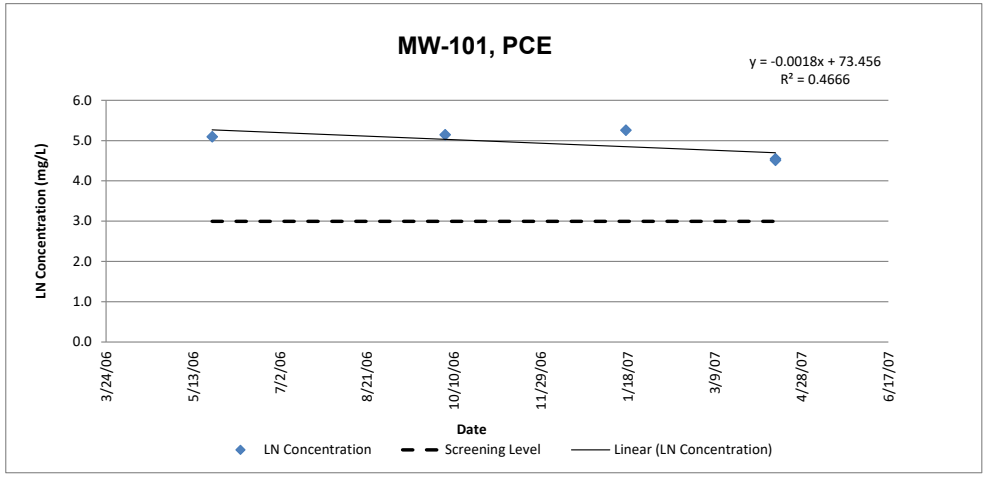
Results		
Coefficient of Determination (R^2) =	0.6165	
p-Value =	2.48E-03	
Attenuation Rate in Groundwater (K) =	0.0021	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0014	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	3.26E+02	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	90.907
Slope	-0.0021
Date to Screening Level	3/31/2011

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-101**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
5/24/06	163	5.09
10/5/06	171	5.14
1/17/07	192	5.26
4/13/07	94	4.54
4/13/07	91	4.51



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	5
# of nondetects	0
% of data as detects	100

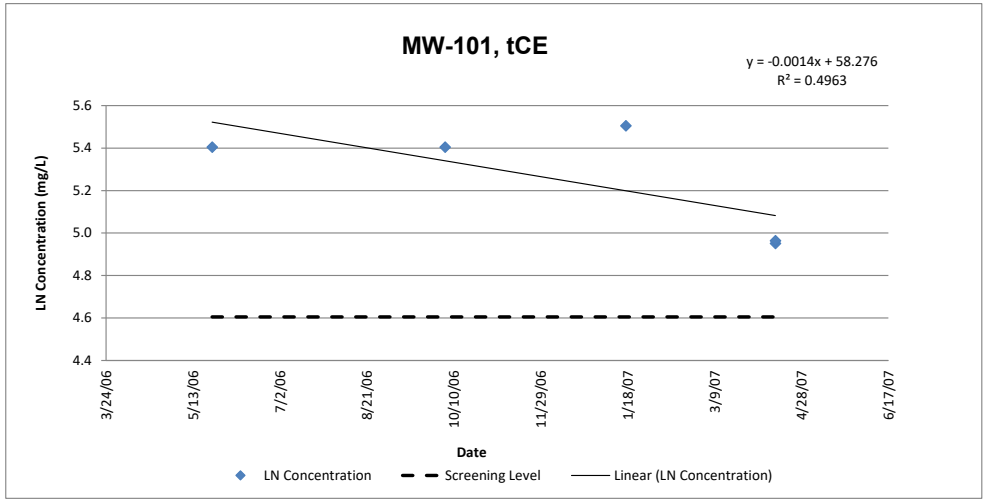
Results		
Coefficient of Determination (R^2) =	0.4666	
p-Value =	2.04E-01	
Attenuation Rate in Groundwater (K) =	0.0018	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	73.456
Slope	-0.0018
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-101**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
5/24/06	222	5.40
10/5/06	222	5.40
1/17/07	246	5.50
4/13/07	141	4.95
4/13/07	143	4.96



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	5
# of nondetects	0
% of data as detects	100

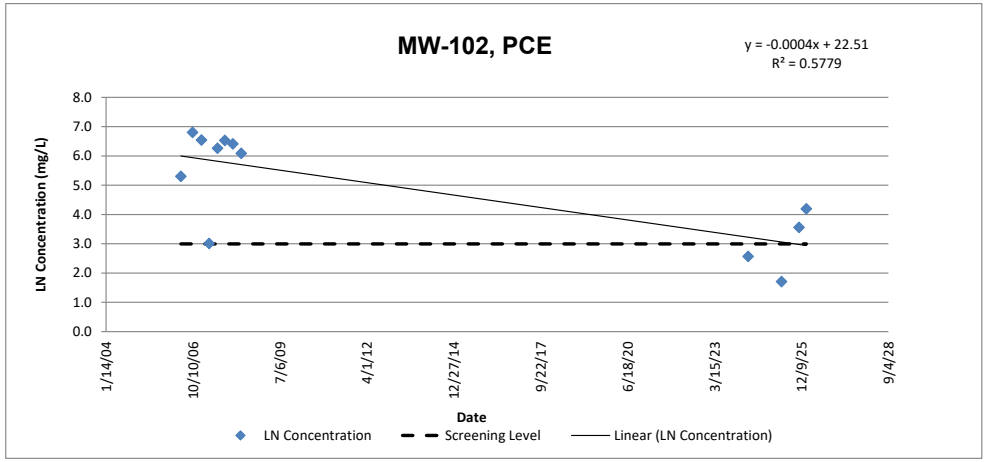
Results		
Coefficient of Determination (R^2) =	0.4963	
p-Value =	1.84E-01	
Attenuation Rate in Groundwater (K) =	0.0014	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	5.10E+02	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	58.276
Slope	-0.0014
Date to Screening Level	3/29/2008

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-102**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
5/24/06	200	5.30
10/5/06	898	6.80
1/16/07	692	6.54
4/13/07	20	3.01
7/18/07	524	6.26
10/10/07	685	6.53
1/10/08	606	6.41
4/17/08	438	6.08
4/3/24	13	2.56
4/23/25	5.5	1.70
11/11/25	35	3.56
2/3/26	66	4.19



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	12
# of nondetects	0
% of data as detects	100

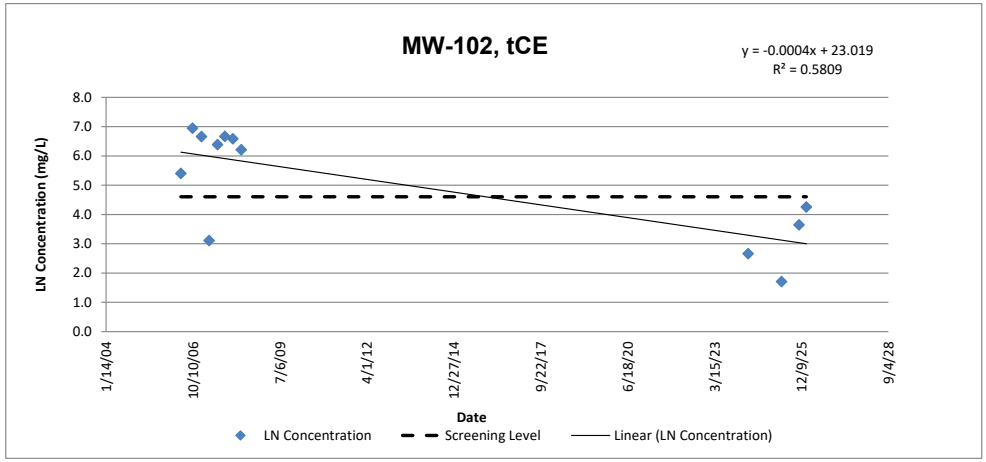
Results		
Coefficient of Determination (R^2) =	0.5779	
p-Value =	4.11E-03	
Attenuation Rate in Groundwater (K) =	0.0004	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0003	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	1.63E+03	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	22.510
Slope	-0.0004
Date to Screening Level	9/24/2025

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-102**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
5/24/06	222	5.40
10/5/06	1037	6.94
1/16/07	779	6.66
4/13/07	22	3.10
7/18/07	594	6.39
10/10/07	786	6.67
1/10/08	723	6.58
4/17/08	496	6.21
4/3/24	14	2.66
4/23/25	5.5	1.70
11/11/25	38	3.65
2/3/26	70.5	4.26



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	12
# of nondetects	0
% of data as detects	100

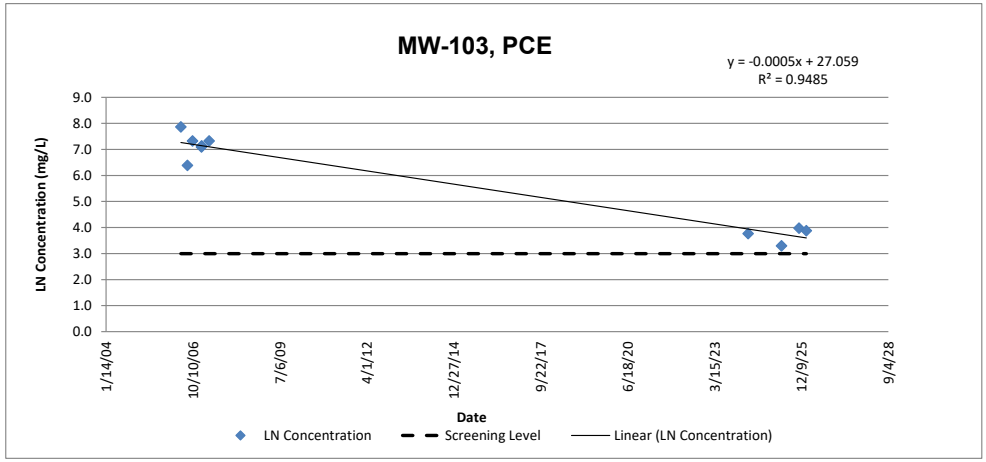
Results		
Coefficient of Determination (R^2) =	0.5809	
p-Value =	3.96E-03	
Attenuation Rate in Groundwater (K) =	0.0004	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0003	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	1.59E+03	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	23.019
Slope	-0.0004
Date to Screening Level	12/27/2015

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-103**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
5/24/06	2600	7.86
8/7/06	592	6.38
10/5/06	1510	7.32
1/16/07	1200	7.09
1/18/07	1250	7.13
4/13/07	1510	7.32
4/3/24	43	3.76
4/23/25	27	3.30
11/11/25	53	3.97
2/3/26	48	3.87



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	10
# of nondetects	0
% of data as detects	100

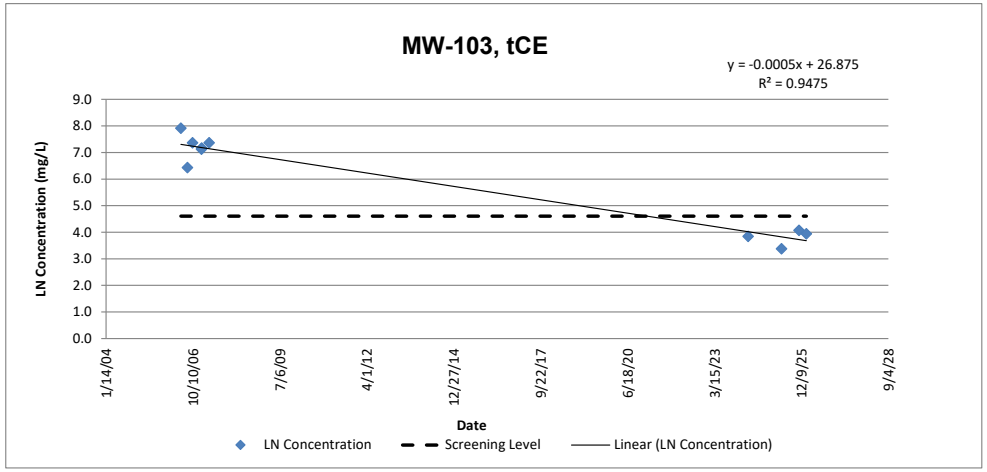
Results		
Coefficient of Determination (R^2) =	0.9485	
p-Value =	1.96E-06	
Attenuation Rate in Groundwater (K) =	0.0005	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0005	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	1.36E+03	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	27.059
Slope	-0.0005
Date to Screening Level	5/4/2029

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-103**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
5/24/06	2722	7.91
8/7/06	621	6.43
10/5/06	1579	7.36
1/16/07	1241	7.12
1/18/07	1292	7.16
4/13/07	1577	7.36
4/3/24	47	3.84
4/23/25	29	3.38
11/11/25	59	4.07
2/3/26	51	3.94



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	10
# of nondetects	0
% of data as detects	100

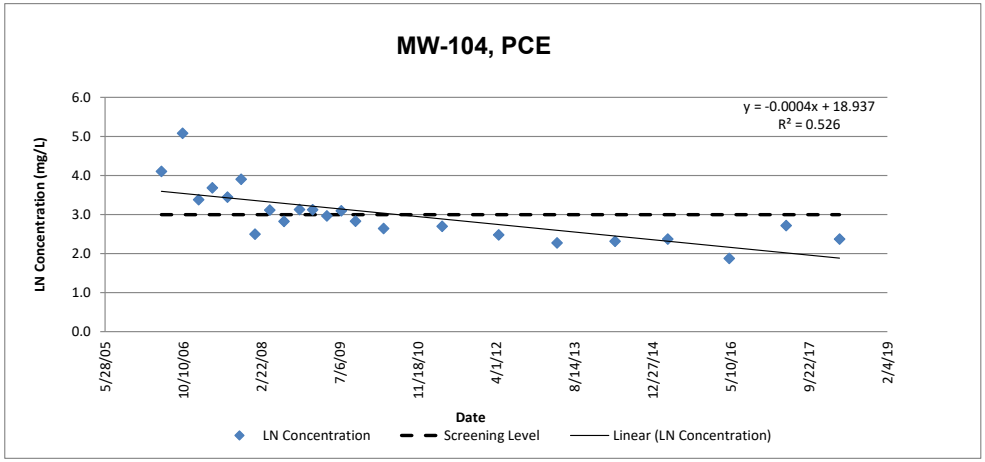
Results		
Coefficient of Determination (R^2) =	0.9475	
p-Value =	2.13E-06	
Attenuation Rate in Groundwater (K) =	0.0005	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0004	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	1.38E+03	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	26.875
Slope	-0.0005
Date to Screening Level	1/27/2021

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-104**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
5/23/06	60	4.10
10/5/06	160	5.08
1/16/07	29	3.38
4/13/07	40	3.68
7/19/07	31	3.44
10/15/07	49	3.90
1/11/08	12	2.49
4/15/08	22	3.11
7/15/08	17	2.82
10/21/08	23	3.13
1/14/09	23	3.12
4/14/09	19	2.96
7/15/09	22	3.09
10/14/09	17	2.83
4/12/10	14	2.64
4/21/11	15	2.69
4/17/12	12	2.48
4/24/13	9.7	2.27
4/30/14	10	2.31
4/2/15	11	2.37
4/29/16	6.5	1.87
4/28/17	15	2.71
4/4/18	11	2.37



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	23
# of nondetects	0
% of data as detects	100

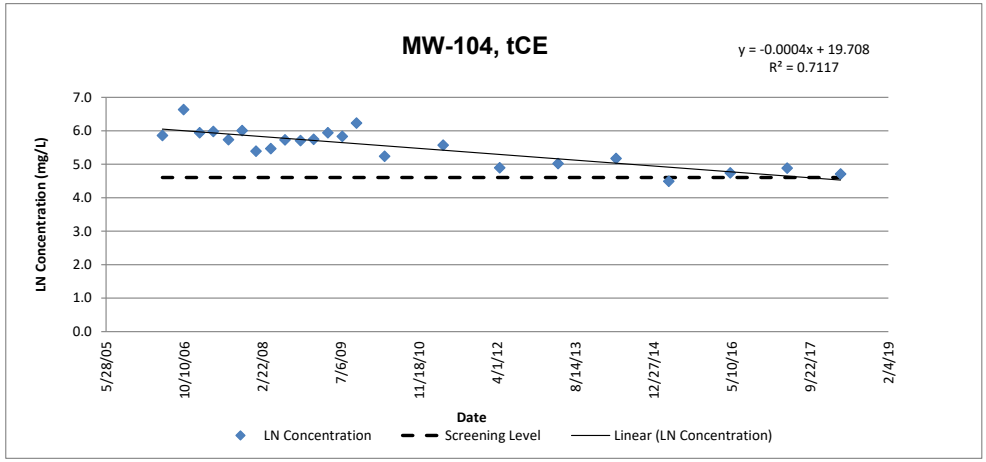
Results		
Coefficient of Determination (R^2) =	0.5260	
p-Value =	9.03E-05	
Attenuation Rate in Groundwater (K) =	0.00039	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0003	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	1.76E+03	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	18.937
Slope	-0.0004
Date to Screening Level	7/15/2010

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-104**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
5/23/06	351	5.86
10/5/06	760	6.63
1/16/07	379	5.94
4/13/07	395	5.98
7/19/07	309	5.73
10/15/07	405	6.00
1/11/08	219	5.39
4/15/08	236	5.46
7/15/08	307	5.73
10/21/08	301	5.71
1/14/09	312	5.74
4/14/09	381	5.94
7/15/09	340	5.83
10/14/09	508	6.23
4/12/10	188	5.24
4/21/11	262	5.57
4/17/12	134	4.89
4/24/13	151	5.02
4/30/14	177	5.17
4/2/15	89	4.49
4/29/16	115	4.74
4/28/17	132	4.88
4/4/18	111	4.71



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	23
# of nondetects	0
% of data as detects	100

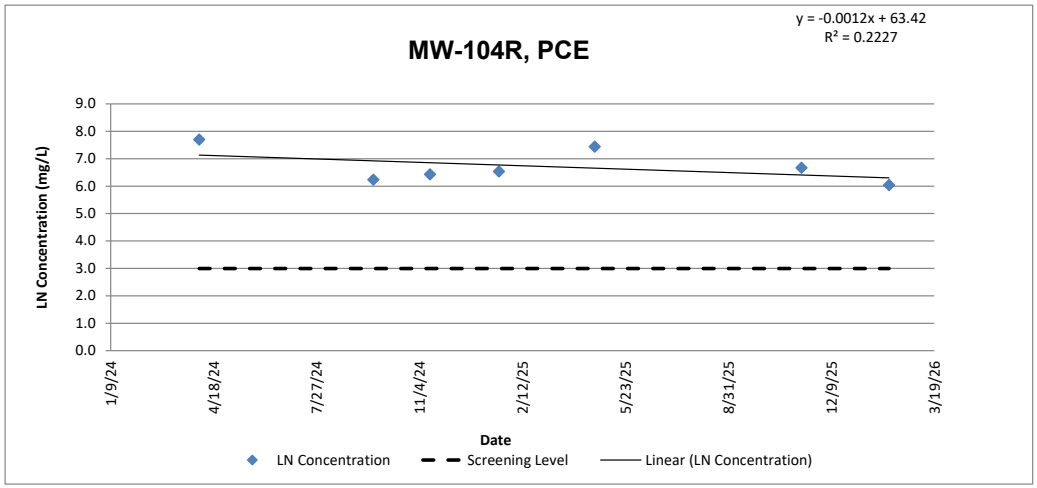
Results		
Coefficient of Determination (R^2) =	0.7117	
p-Value =	4.28E-07	
Attenuation Rate in Groundwater (K) =	0.0004	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0003	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	1.97E+03	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	19.708
Slope	-0.0004
Date to Screening Level	8/28/2017

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-104R**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
4/4/24	2200	7.70
9/20/24	510	6.23
11/14/24	620	6.43
1/20/25	690	6.54
4/23/25	1700	7.44
11/10/25	790	6.67
2/3/26	420	6.04



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	7
# of nondetects	0
% of data as detects	100

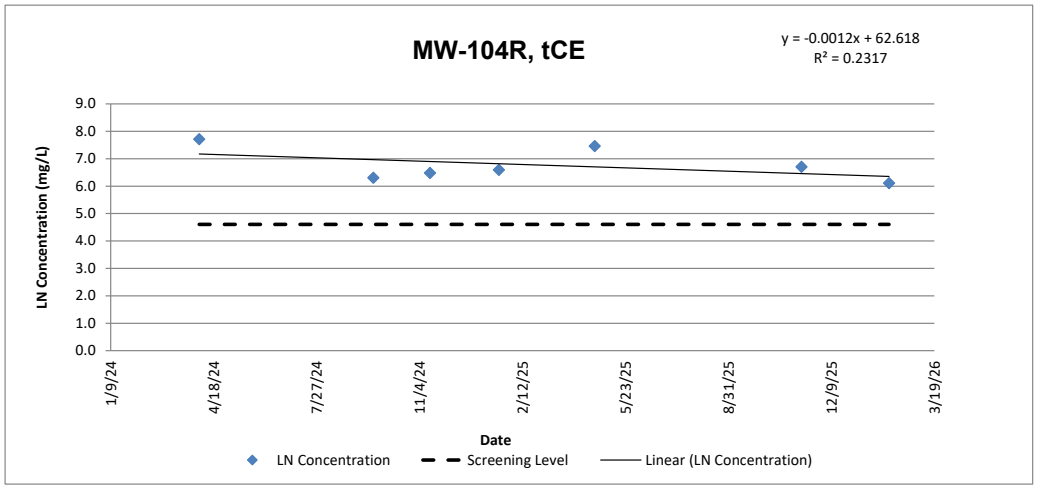
Results		
Coefficient of Determination (R^2) =	0.2227	
p-Value =	2.85E-01	
Attenuation Rate in Groundwater (K) =	0.00124	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0003	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	63.420
Slope	-0.0012
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-104R**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
4/4/24	2243	7.72
9/20/24	549	6.31
11/14/24	654	6.48
1/20/25	731	6.59
4/23/25	1734	7.46
11/10/25	814	6.70
2/3/26	451	6.11



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	7
# of nondetects	0
% of data as detects	100

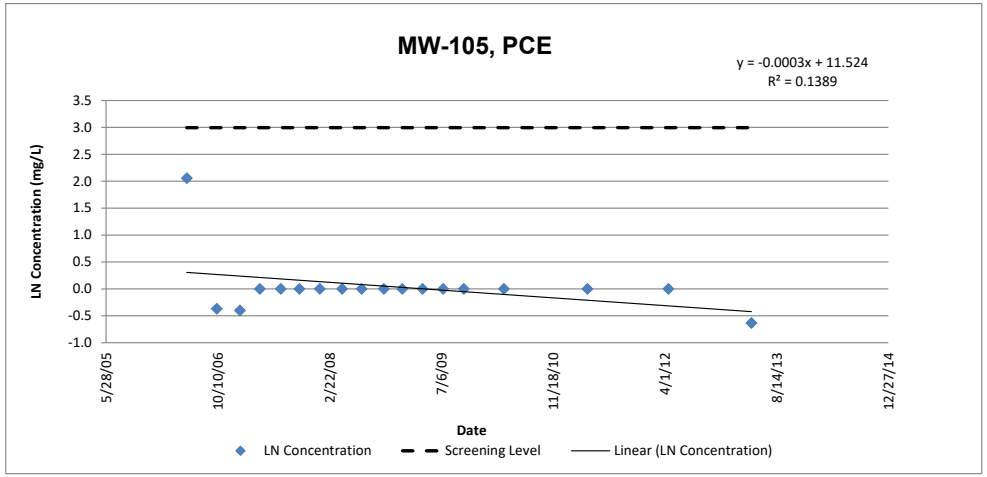
Results		
Coefficient of Determination (R^2) =	0.2317	
p-Value =	2.74E-01	
Attenuation Rate in Groundwater (K) =	0.0012	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0002	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	62.618
Slope	-0.0012
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-105**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
5/24/06	7.8	2.05
10/5/06	0.69	-0.37
1/17/07	0.67	-0.40
4/16/07	1	0.00
7/19/07	1	0.00
10/10/07	1	0.00
1/9/08	1	0.00
4/18/08	1	0.00
7/14/08	1	0.00
10/22/08	1	0.00
1/12/09	1	0.00
4/13/09	1	0.00
7/14/09	1	0.00
10/14/09	1	0.00
4/12/10	1	0.00
4/20/11	1	0.00
4/17/12	1	0.00
4/23/13	0.53	-0.63



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	18
# of nondetects	14
% of data as detects	22

Less than 75% data above reporting limits.

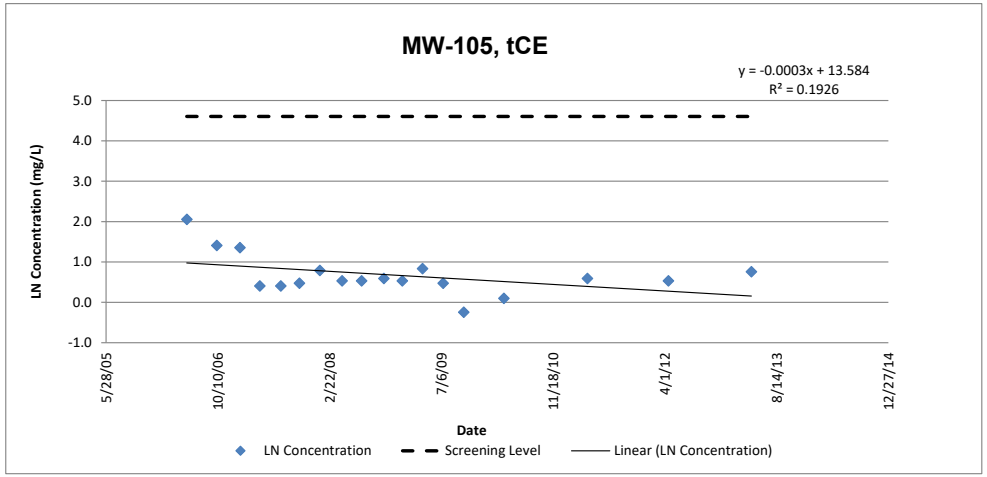
Results		
Coefficient of Determination (R^2) =	0.1389	
p-Value =	1.28E-01	
Attenuation Rate in Groundwater (K) =	0.0003	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	2.40E+03	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	11.524
Slope	-0.0003
Date to Screening Level	11/20/1980

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-105**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
5/24/06	7.8	2.05
10/5/06	4.1	1.41
1/17/07	3.9	1.35
4/16/07	1.5	0.41
7/19/07	1.5	0.41
10/10/07	1.6	0.47
1/9/08	2.2	0.79
4/18/08	1.7	0.53
7/14/08	1.7	0.53
10/22/08	1.8	0.59
1/12/09	1.7	0.53
4/13/09	2.3	0.83
7/14/09	1.6	0.47
10/14/09	0.78	-0.25
4/12/10	1.1	0.10
4/20/11	1.8	0.59
4/17/12	1.7	0.53
4/23/13	2.1	0.76



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	18
# of nondetects	0
% of data as detects	100

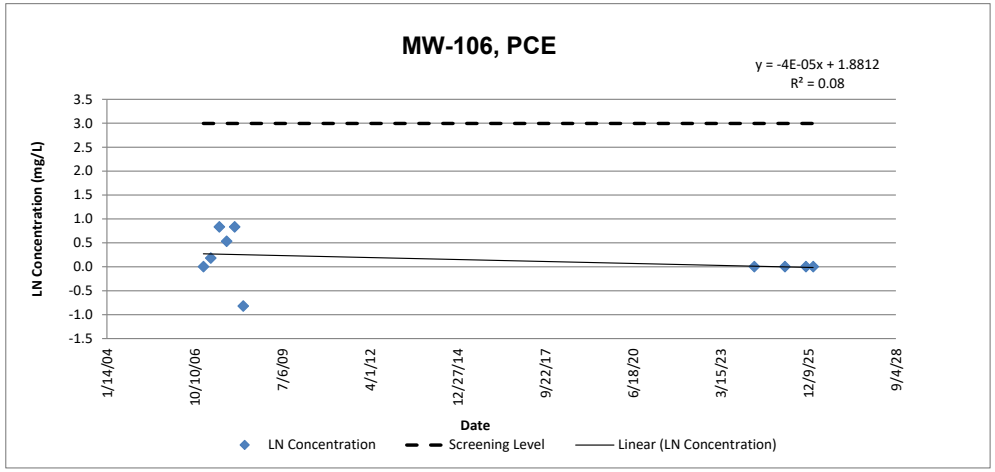
Results		
Coefficient of Determination (R^2) =	0.1926	
p-Value =	6.85E-02	
Attenuation Rate in Groundwater (K) =	0.0003	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	2.14E+03	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	13.584
Slope	-0.0003
Date to Screening Level	10/7/1975

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-106**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
1/18/07	1.0	0.00
4/13/07	1.2	0.18
7/19/07	2.3	0.83
10/10/07	1.7	0.53
1/10/08	2.3	0.83
4/17/08	0.44	-0.82
4/3/24	1	0.00
3/19/25	1	0.00
11/12/25	1	0.00
2/3/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	10
# of nondetects	3
% of data as detects	70

Results		
Coefficient of Determination (R^2) =	0.0800	
p-Value =	4.29E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

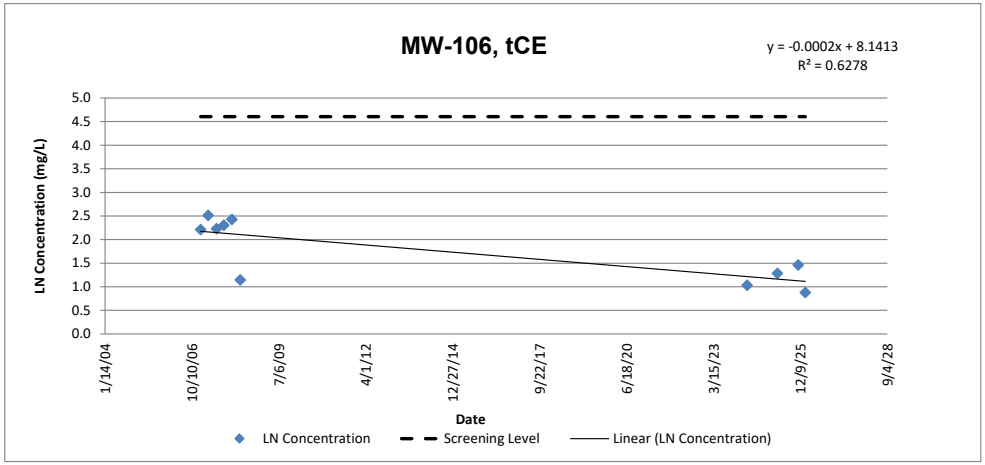
Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	1.881
Slope	-0.00004
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-106**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
1/18/07	9.1	2.21
4/13/07	12	2.51
7/19/07	9.3	2.23
10/10/07	10	2.30
1/10/08	11	2.42
4/17/08	3.1	1.14
4/3/24	2.8	1.03
3/19/25	3.6	1.28
11/12/25	4.3	1.46
2/3/26	2.4	0.88



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	10
# of nondetects	0
% of data as detects	100

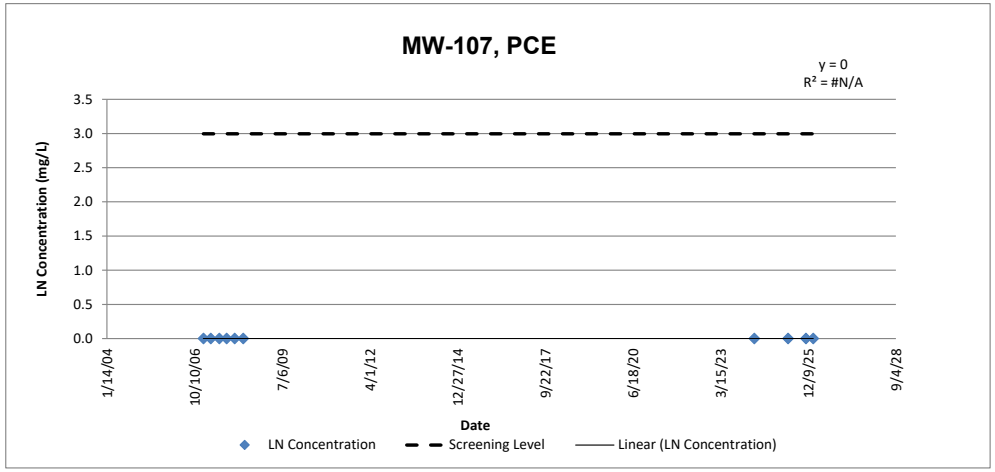
Results		
Coefficient of Determination (R^2) =	0.6278	
p-Value =	6.28E-03	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	4.54E+03	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	8.141
Slope	-0.0002
Date to Screening Level	6/12/1963

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-107**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
1/18/07	1	0.00
4/13/07	1	0.00
7/18/07	1	0.00
10/10/07	1	0.00
1/10/08	1	0.00
4/17/08	1	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/12/25	1	0.00
2/4/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	10
# of nondetects	10
% of data as detects	0

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	#DIV/0!	
p-Value =	#NUM!	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	#DIV/0!	days

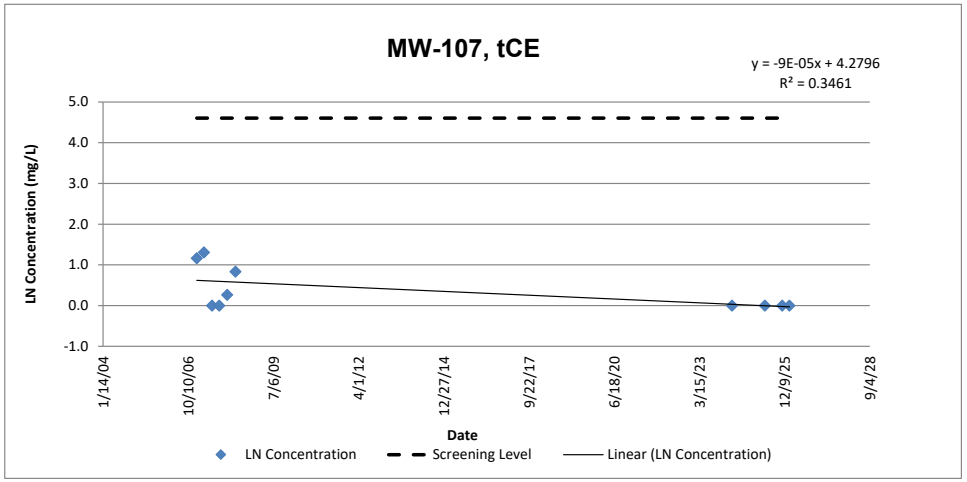
Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	0.000
Slope	0.00000
Date to Screening Level	NA

(N/A b/c data is all Non-Detect)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-107**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
1/18/07	3.2	1.16
4/13/07	3.7	1.31
7/18/07	1	0.00
10/10/07	1	0.00
1/10/08	1.3	0.26
4/17/08	2.3	0.83
4/2/24	1	0.00
4/22/25	1	0.00
11/12/25	1	0.00
2/5/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	10
# of nondetects	6
% of data as detects	40

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	0.3461	
p-Value =	7.36E-02	
Attenuation Rate in Groundwater (K) =	0.0001	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (I	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	7.40E+03	days

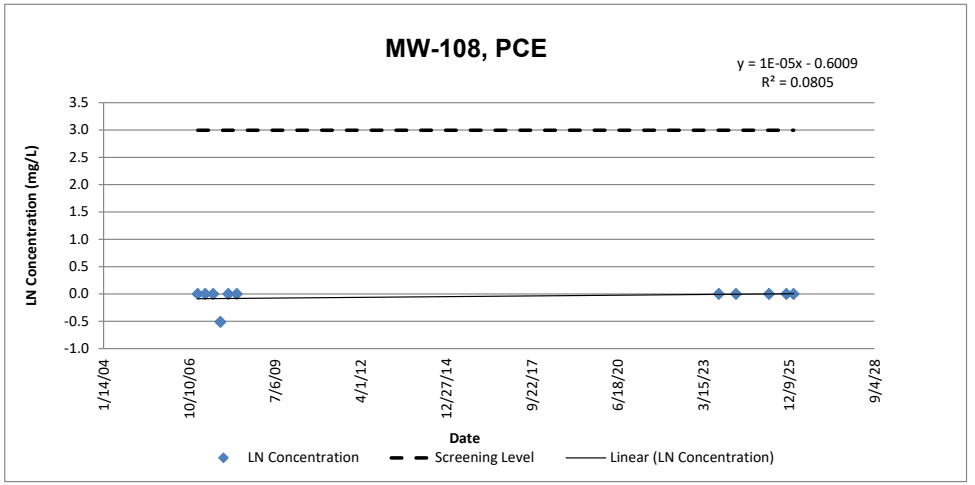
Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	4.280
Slope	-0.0001
Date to Screening Level	########

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-108**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
1/18/07	1	0.00
4/16/07	1	0.00
7/18/07	1	0.00
10/10/07	0.60	-0.51
1/10/08	1	0.00
4/17/08	1	0.00
9/15/23	1	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/12/25	1	0.00
2/4/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	11
# of nondetects	10
% of data as detects	9

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	0.0805	
p-Value =	3.98E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

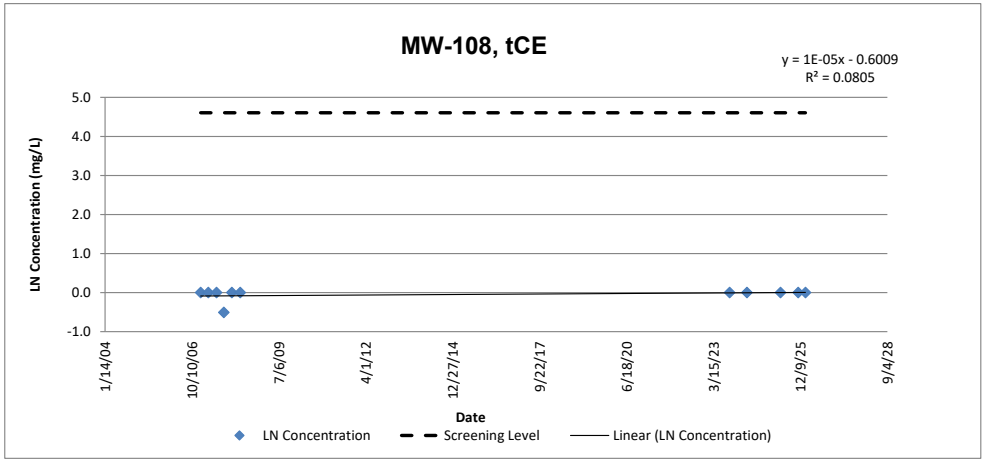
Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	-0.601
Slope	0.00001
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-108**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
1/18/07	1	0.00
4/16/07	1	0.00
7/18/07	1	0.00
10/10/07	0.60	-0.51
1/10/08	1	0.00
4/17/08	1	0.00
9/15/23	1	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/12/25	1	0.00
2/4/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	11
# of nondetects	10
% of data as detects	9

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	0.0805	
p-Value =	3.98E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

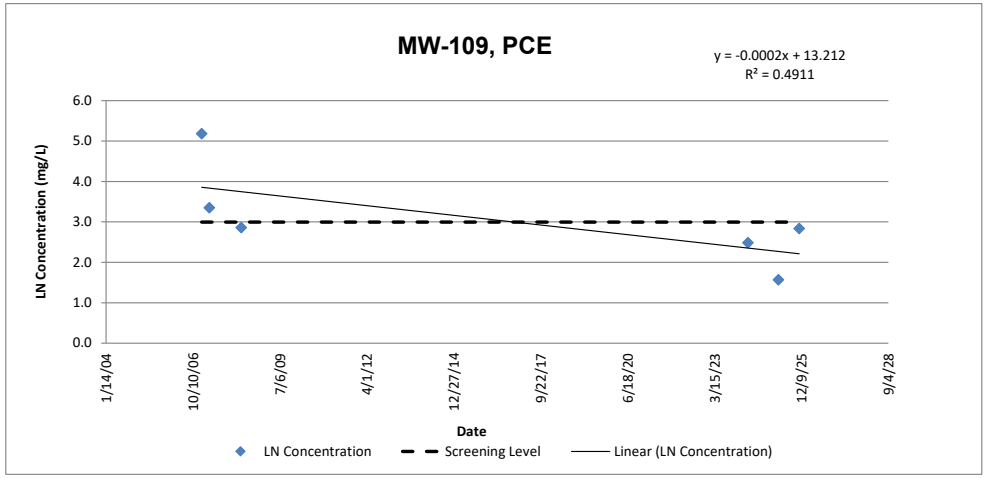
Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	-0.601
Slope	0.0000
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-109**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
1/18/07	178	5.18
4/16/07	29	3.35
4/17/08	17	2.86
4/2/24	12	2.48
3/19/25	4.8	1.57
11/13/25	17	2.83



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	6
# of nondetects	0
% of data as detects	100

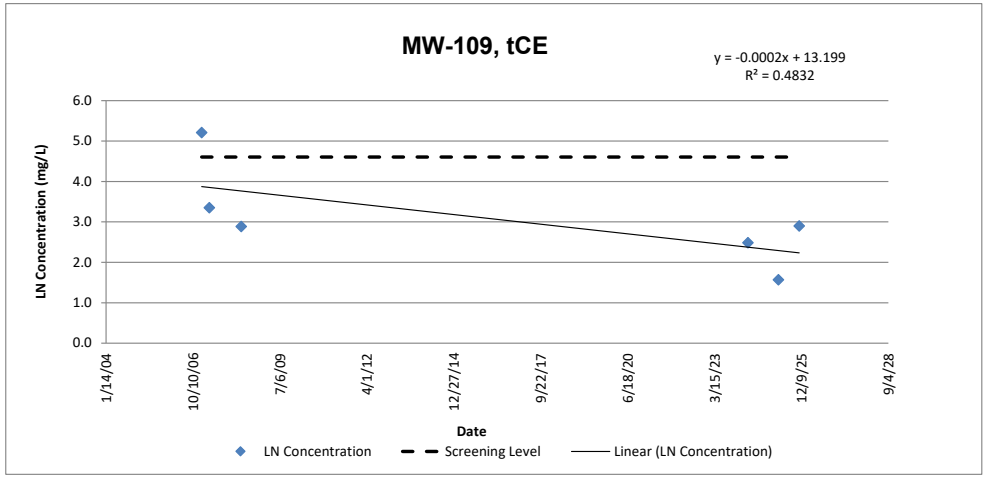
Results		
Coefficient of Determination (R^2) =	0.4911	
p-Value =	1.21E-01	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	2.90E+03	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	13.212
Slope	-0.0002
Date to Screening Level	11/24/2016

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-109**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
1/18/07	183	5.21
4/16/07	29	3.35
4/17/08	18	2.89
4/2/24	12	2.48
3/19/25	4.8	1.57
11/13/25	18.1	2.90



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	6
# of nondetects	0
% of data as detects	100

Results		
Coefficient of Determination (R^2) =	0.4832	
p-Value =	1.25E-01	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	2.91E+03	days

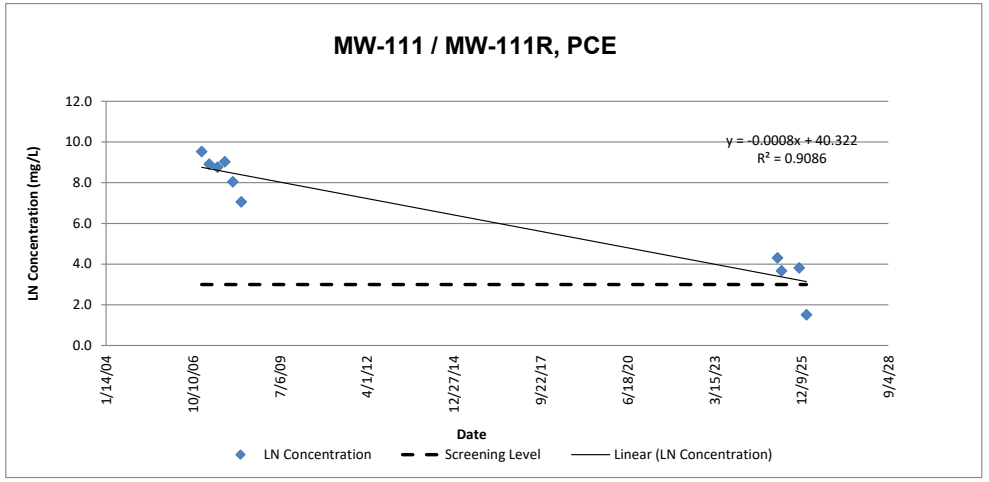
Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	13.199
Slope	-0.0002
Date to Screening Level	8/25/1998

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-111 / MW-111R**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
1/18/07	13700	9.53
4/16/07	7370	8.91
7/18/07	6340	8.75
10/10/07	8350	9.03
1/10/08	3100	8.04
4/17/08	1160	7.06
3/7/25	74	4.30
4/24/25	39	3.66
11/12/25	45	3.81
2/4/26	4.5	1.50

MW-111R data starts 3/7/25
sceened 1' deeper
loc. 20' SW of MW-111



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	10
# of nondetects	0
% of data as detects	100

Results		
Coefficient of Determination (R^2) =	0.9086	
p-Value =	1.98E-05	
Attenuation Rate in Groundwater (K) =	0.0008	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0007	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	8.58E+02	days

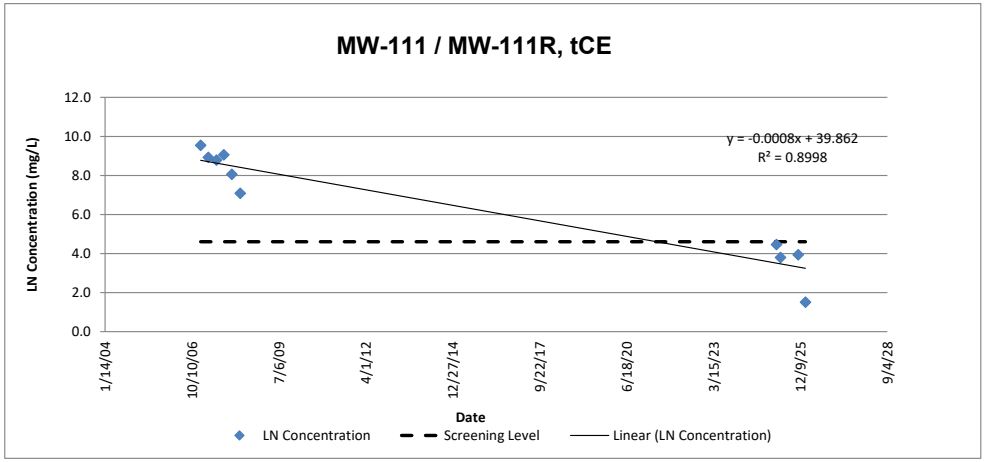
Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	40.322
Slope	-0.0008
Date to Screening Level	8/2/2026

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-111 / MW-111R**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
1/18/07	13890	9.54
4/16/07	7472	8.92
7/18/07	6528	8.78
10/10/07	8539	9.05
1/10/08	3157	8.06
4/17/08	1188	7.08
3/7/25	86	4.46
4/24/25	44	3.79
11/12/25	51	3.94
2/4/26	4.5	1.50

MW-111R data starts 3/7/25
sceened 1' deeper
loc. 20' SW of MW-111



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	10
# of nondetects	0
% of data as detects	100

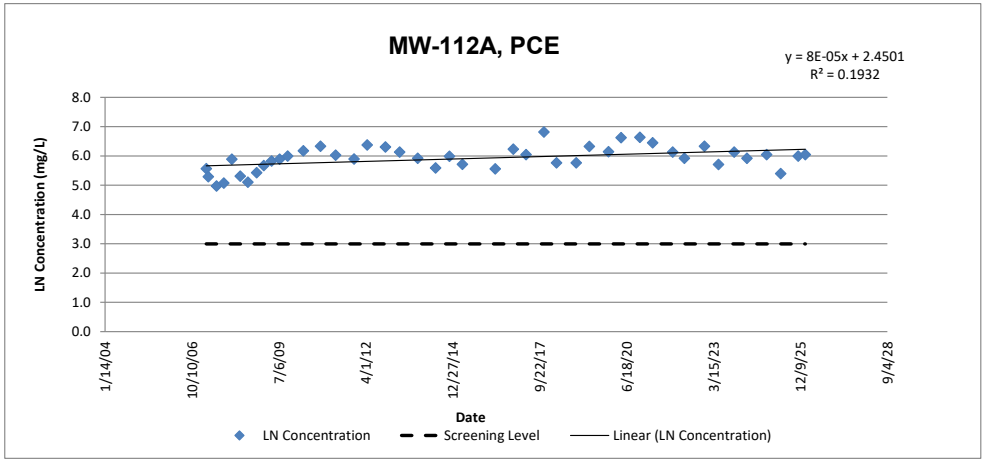
Results		
Coefficient of Determination (R^2) =	0.8998	
p-Value =	2.87E-05	
Attenuation Rate in Groundwater (K) =	0.0008	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0007	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	8.72E+02	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	39.862
Slope	-0.0008
Date to Screening Level	5/29/2021

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-112A**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
3/23/07	261	5.56
4/16/07	198	5.29
7/18/07	144	4.97
10/10/07	159	5.07
1/10/08	359	5.88
4/17/08	202	5.31
7/14/08	165	5.10
10/22/08	227	5.42
1/12/09	289	5.66
4/13/09	337	5.82
7/14/09	360	5.88
10/14/09	399	5.99
4/12/10	479	6.17
10/27/10	561	6.33
4/20/11	412	6.02
11/16/11	363	5.89
4/16/12	587	6.37
11/12/12	546	6.30
4/24/13	460	6.13
11/18/13	371	5.92
6/11/14	266	5.58
11/18/14	398	5.99
4/17/15	301.5	5.71
4/28/16	258	5.55
11/21/16	508	6.23
4/18/17	420	6.04
11/10/17	908	6.81
4/4/18	317	5.76
11/15/18	317	5.76
4/15/19	555	6.32
11/22/19	463	6.14
4/16/20	750	6.62
11/18/20	760	6.63
4/13/21	630	6.45
11/30/21	460	6.13
4/14/22	370	5.91
11/29/22	560	6.33
5/11/23	300	5.70
11/7/23	460	6.13
4/2/24	370	5.91
11/14/24	420	6.04
4/25/25	220	5.39
11/13/25	400	5.99
2/3/26	420	6.04



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	44
# of nondetects	0
% of data as detects	100

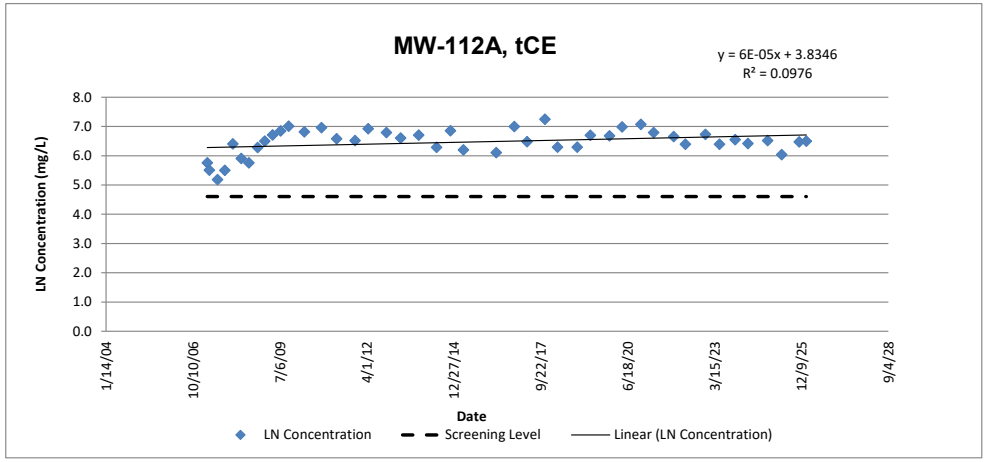
Results		
Coefficient of Determination (R^2) =	0.1932	
p-Value =	2.84E-03	
Attenuation Rate in Groundwater (K) =	-0.0001	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	2.450
Slope	0.0001
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-112A**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
3/23/07	316	5.75
4/16/07	245	5.50
7/18/07	178	5.18
10/10/07	244	5.50
1/10/08	602	6.40
4/17/08	367	5.90
7/14/08	315	5.75
10/22/08	535	6.28
1/12/09	663	6.50
4/13/09	822	6.71
7/14/09	939	6.84
10/14/09	1104	7.01
4/12/10	912	6.82
10/27/10	1051	6.96
4/20/11	718	6.58
11/16/11	675	6.51
4/16/12	1013	6.92
11/12/12	891	6.79
4/24/13	736	6.60
11/18/13	813	6.70
6/11/14	537	6.29
11/18/14	946	6.85
4/17/15	492	6.20
4/28/16	449	6.11
11/21/16	1091	7.00
4/18/17	652	6.48
11/10/17	1403	7.25
4/4/18	541	6.29
11/15/18	541	6.29
4/15/19	809	6.70
11/22/19	795	6.68
4/16/20	1081	6.99
11/18/20	1178	7.07
4/13/21	890	6.79
11/30/21	773	6.65
4/14/22	595	6.39
11/29/22	835	6.73
5/11/23	597	6.39
11/7/23	698	6.55
4/2/24	612	6.42
11/14/24	677	6.52
4/25/25	418	6.04
11/13/25	647	6.47
2/3/26	661	6.49



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	44
# of nondetects	0
% of data as detects	100

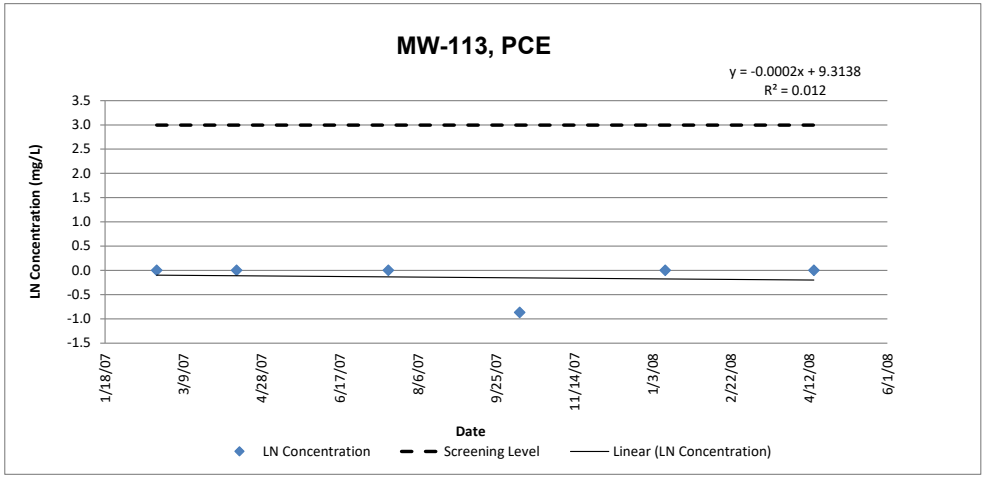
Results		
Coefficient of Determination (R^2) =	0.0976	
p-Value =	3.90E-02	
Attenuation Rate in Groundwater (K) =	-0.0001	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	3.835
Slope	0.0001
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-113**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
2/20/07	1	0.00
4/12/07	1	0.00
7/18/07	1	0.00
10/10/07	0.42	-0.87
1/11/08	1	0.00
4/15/08	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	6
# of nondetects	5
% of data as detects	17

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	0.0120	
p-Value =	8.37E-01	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0014	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

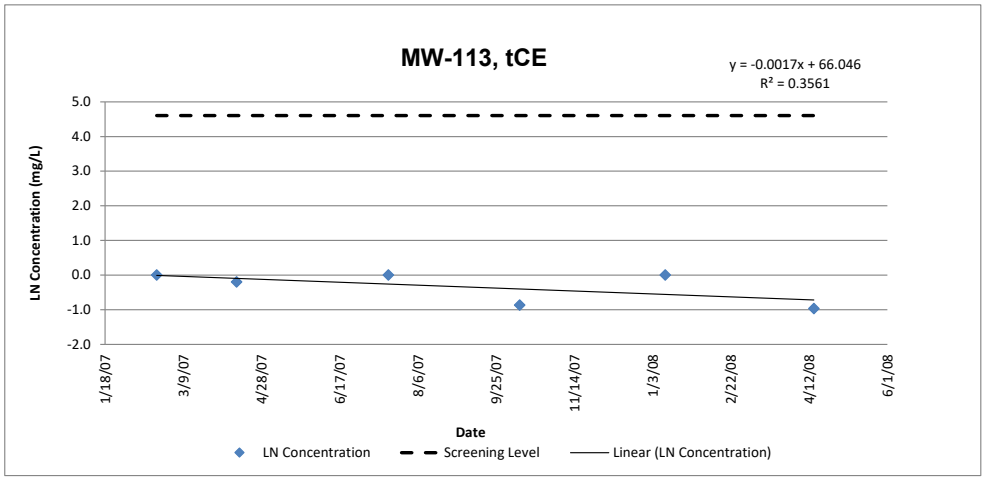
Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	9.314
Slope	-0.0002
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-113**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
2/20/07	1	0.00
4/12/07	0.82	-0.20
7/18/07	1	0.00
10/10/07	0.42	-0.87
1/11/08	1	0.00
4/15/08	0.38	-0.97



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	6
# of nondetects	3
% of data as detects	50

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	0.3561	
p-Value =	2.11E-01	
Attenuation Rate in Groundwater (K) =	0.0017	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

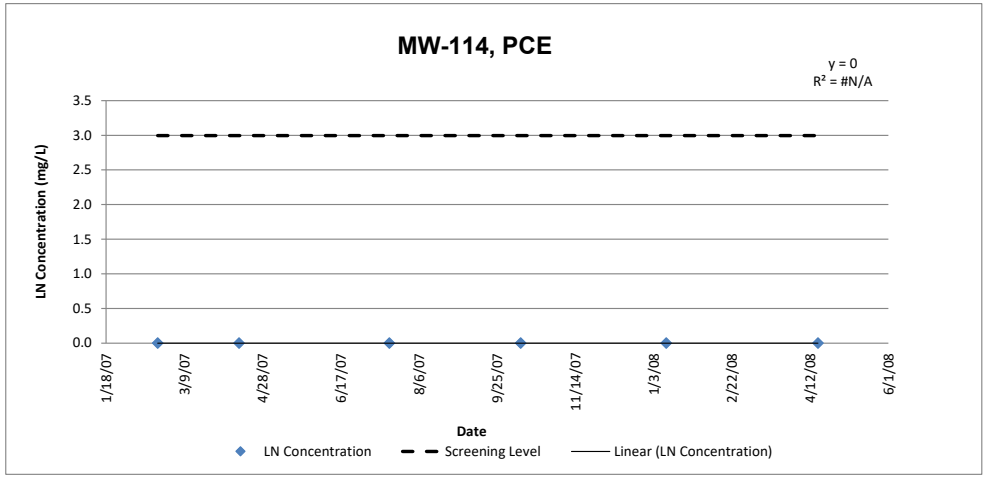
Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	66.046
Slope	-0.0017
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-114**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
2/20/07	1	0.00
4/13/07	1	0.00
7/18/07	1	0.00
10/10/07	1	0.00
1/11/08	1	0.00
4/17/08	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	6
# of nondetects	6
% of data as detects	0

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	#DIV/0!	
p-Value =	#NUM!	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	#DIV/0!	days

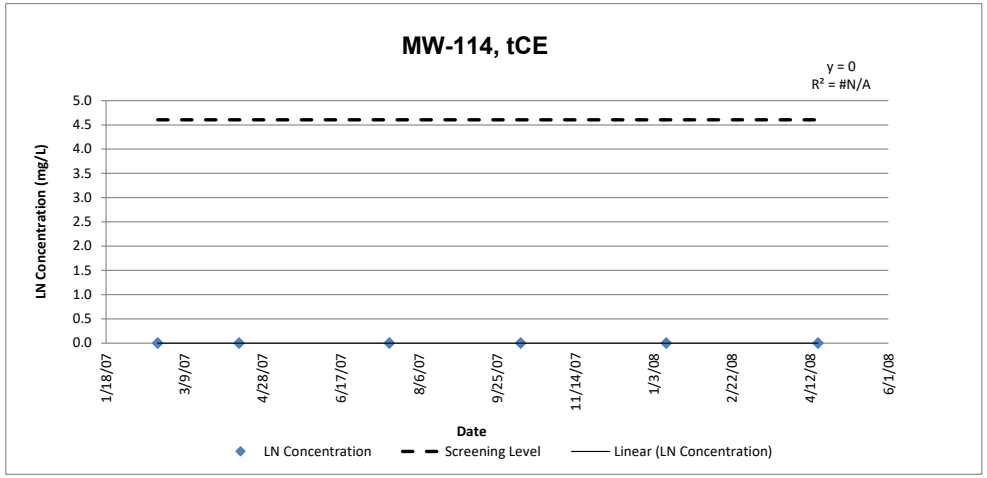
Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	0.000
Slope	0.0000
Date to Screening Level	#DIV/0!

(N/A b/c all data is non-detect)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-114**
Constituent tCE

Data		
Sample Date	Concentration (ug/L)	LN Concentration
2/20/07	1	0.00
4/13/07	1	0.00
7/18/07	1	0.00
10/10/07	1	0.00
1/11/08	1	0.00
4/17/08	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	6
# of nondetects	6
% of data as detects	0

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	#DIV/0!	
p-Value =	#NUM!	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	#DIV/0!	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	0.000
Slope	0.0000
Date to Screening Level	#DIV/0!

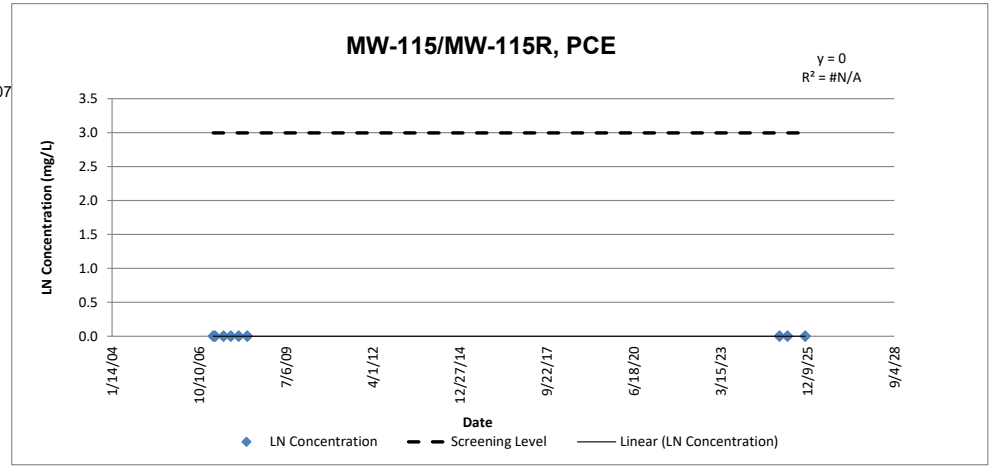
(N/A b/c all data is non-detect)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-115/MW-115R**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
3/23/07	1	0.00
4/13/07	1	0.00
7/18/07	1	0.00
10/10/07	1	0.00
1/9/08	1	0.00
4/17/08	1	0.00
1/20/25	1	0.00
4/22/25	1	0.00
11/13/25	1	0.00

MW-115R data starts 7/18/07
sceened same as MW-115
Same loc. As MW-115



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	9
# of nondetects	9
% of data as detects	0

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	#DIV/0!	
p-Value =	#NUM!	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	#DIV/0!	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	0.000
Slope	0.0000
Date to Screening Level	#DIV/0!

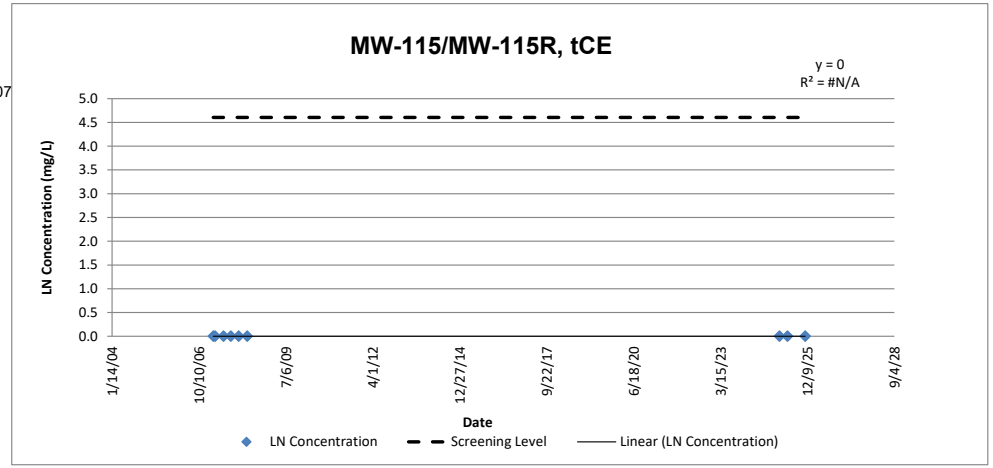
(N/A b/c all data is non-detect)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-115/MW-115R**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
3/23/07	1	0.00
4/13/07	1	0.00
7/18/07	1	0.00
10/10/07	1	0.00
1/9/08	1	0.00
4/17/08	1	0.00
1/20/25	1	0.00
4/22/25	1	0.00
11/13/25	1	0.00

MW-115R data starts 7/18/07
sceened same as MW-115
Same loc. As MW-115



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	9
# of nondetects	9
% of data as detects	0

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	#DIV/0!	
p-Value =	#NUM!	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	#DIV/0!	days

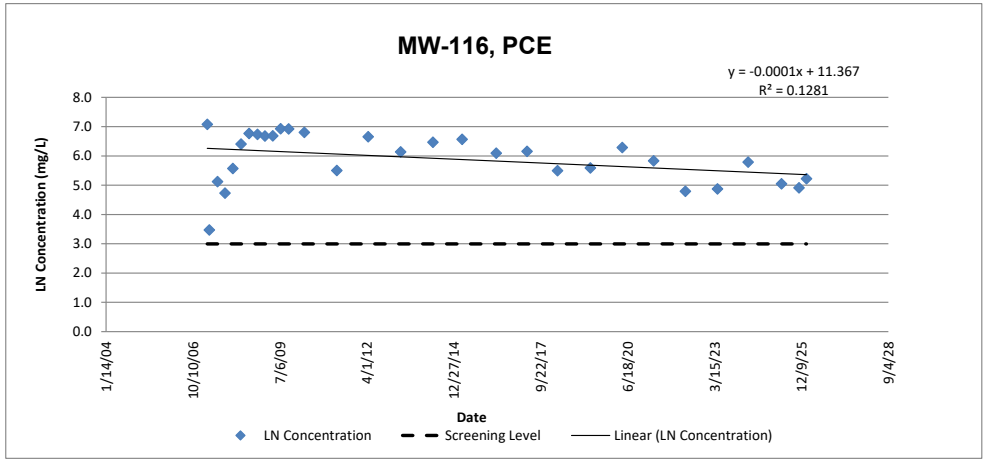
Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	0.000
Slope	0.0000
Date to Screening Level	#DIV/0!

(N/A b/c all data is non-detect)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-116**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
3/23/07	1180	7.07
4/16/07	32	3.47
7/18/07	168	5.12
10/12/07	113	4.73
1/11/08	262	5.57
4/15/08	605	6.41
7/16/08	864	6.76
10/21/08	839	6.73
1/14/09	795	6.68
4/15/09	796	6.68
7/14/09	1020	6.93
10/14/09	1010	6.92
4/13/10	897	6.80
4/21/11	245	5.50
4/17/12	776	6.65
4/24/13	462	6.13
5/1/14	644	6.47
4/2/15	711	6.57
4/29/16	443	6.09
4/17/17	469	6.15
4/4/18	243	5.49
4/16/19	267	5.59
4/17/20	535	6.28
4/14/21	340	5.83
4/14/22	120	4.79
4/18/23	130	4.87
4/3/24	325	5.78
4/24/25	155	5.04
11/11/25	135	4.91
2/4/26	185	5.22



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	30
# of nondetects	0
% of data as detects	100

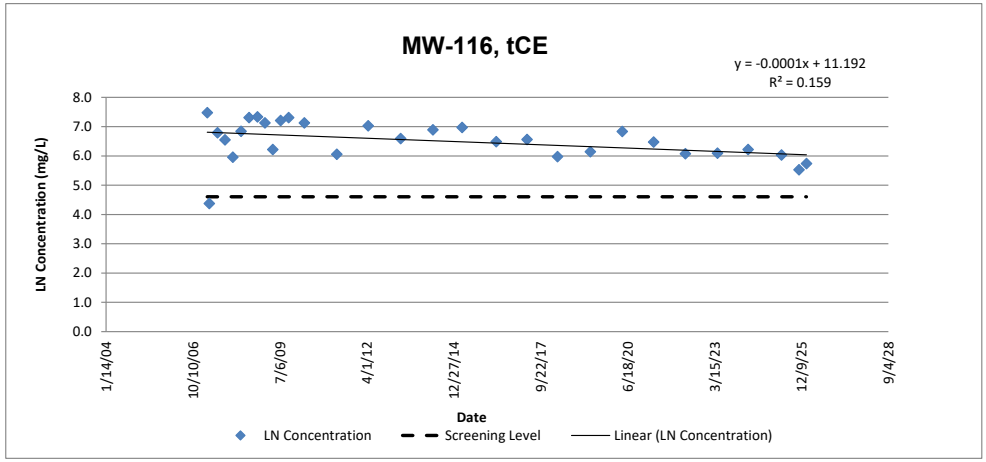
Results		
Coefficient of Determination (R^2) =	0.1281	
p-Value =	5.21E-02	
Attenuation Rate in Groundwater (K) =	0.0001	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	5.31E+03	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	11.367
Slope	-0.0001
Date to Screening Level	9/17/2075

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-116**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
3/23/07	1764	7.48
4/16/07	79	4.37
7/18/07	885	6.79
10/12/07	696	6.54
1/11/08	385	5.95
4/15/08	932	6.84
7/16/08	1493	7.31
10/21/08	1529	7.33
1/14/09	1240	7.12
4/15/09	502	6.22
7/14/09	1350	7.21
10/14/09	1486	7.30
4/13/10	1244	7.13
4/21/11	425	6.05
4/17/12	1123	7.02
4/24/13	727	6.59
5/1/14	979	6.89
4/2/15	1064	6.97
4/29/16	656	6.49
4/17/17	703	6.56
4/4/18	393	5.97
4/16/19	464	6.14
4/17/20	930	6.84
4/14/21	647	6.47
4/14/22	435	6.07
4/18/23	443	6.09
4/3/24	500	6.21
4/24/25	415	6.03
11/11/25	251	5.53
2/4/26	310	5.74



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	30
# of nondetects	0
% of data as detects	100

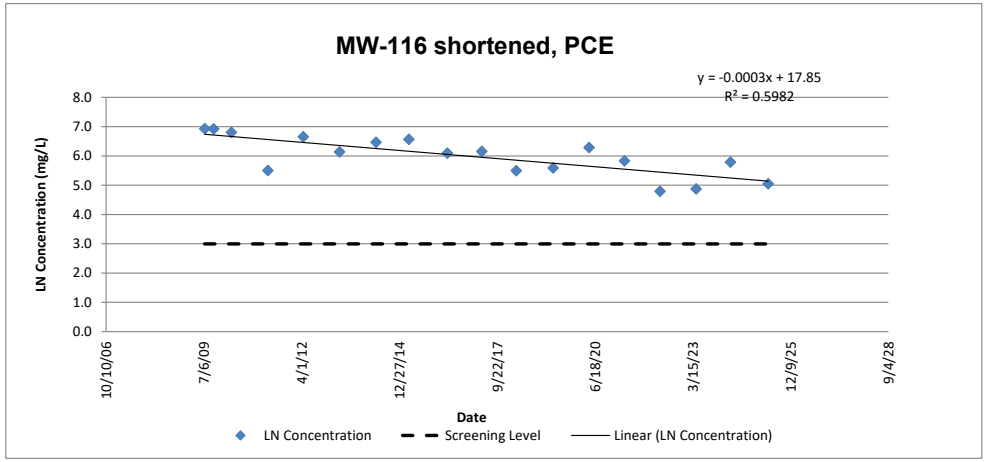
Results		
Coefficient of Determination (R^2) =	0.1590	
p-Value =	2.90E-02	
Attenuation Rate in Groundwater (K) =	0.0001	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	6.19E+03	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	11.192
Slope	-0.0001
Date to Screening Level	2/23/2061

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-116 shortened**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/14/09	1020	6.93
10/14/09	1010	6.92
4/13/10	897	6.80
4/21/11	245	5.50
4/17/12	776	6.65
4/24/13	462	6.13
5/1/14	644	6.47
4/2/15	711	6.57
4/29/16	443	6.09
4/17/17	469	6.15
4/4/18	243	5.49
4/16/19	267	5.59
4/17/20	535	6.28
4/14/21	340	5.83
4/14/22	120	4.79
4/18/23	130	4.87
4/3/24	325	5.78
4/24/25	155	5.04



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	18
# of nondetects	0
% of data as detects	100

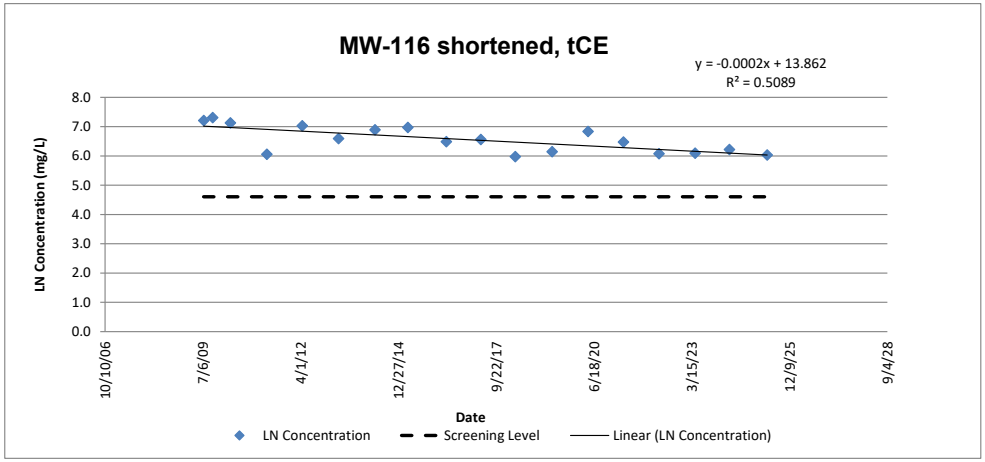
Results		
Coefficient of Determination (R^2) =	0.5982	
p-Value =	1.67E-04	
Attenuation Rate in Groundwater (K) =	0.0003	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0002	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	2.50E+03	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	17.850
Slope	-0.0003
Date to Screening Level	6/10/2046

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-116 shortened**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/14/09	1350	7.21
10/14/09	1486	7.30
4/13/10	1244	7.13
4/21/11	425	6.05
4/17/12	1123	7.02
4/24/13	727	6.59
5/1/14	979	6.89
4/2/15	1064	6.97
4/29/16	656	6.49
4/17/17	703	6.56
4/4/18	393	5.97
4/16/19	464	6.14
4/17/20	930	6.84
4/14/21	647	6.47
4/14/22	435	6.07
4/18/23	443	6.09
4/3/24	500	6.21
4/24/25	415	6.03



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	18
# of nondetects	0
% of data as detects	100

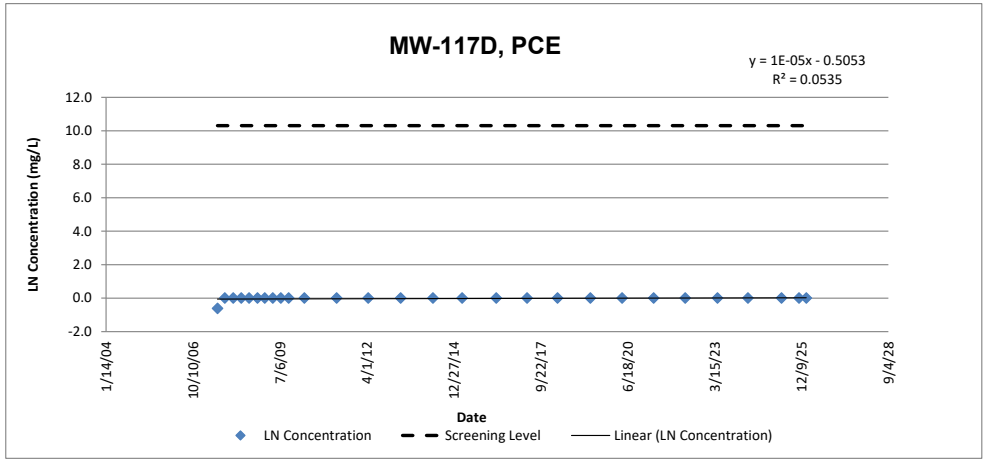
Results		
Coefficient of Determination (R^2) =	0.5089	
p-Value =	8.88E-04	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	4.05E+03	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	13.862
Slope	-0.0002
Date to Screening Level	2/13/2048

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-117D**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/19/07	0.54	-0.62
10/11/07	1	0.00
1/15/08	1	0.00
4/16/08	1	0.00
7/16/08	1	0.00
10/21/08	1	0.00
1/13/09	1	0.00
4/14/09	1	0.00
7/15/09	1	0.00
10/14/09	1	0.00
4/13/10	1	0.00
4/20/11	1	0.00
4/16/12	1	0.00
4/24/13	1	0.00
5/1/14	1	0.00
4/2/15	1	0.00
4/28/16	1	0.00
4/17/17	1	0.00
4/3/18	1	0.00
4/15/19	1	0.00
4/16/20	1	0.00
4/13/21	1	0.00
4/12/22	1	0.00
4/17/23	1	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/10/25	1	0.00
2/2/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	27
% of data as detects	4

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	0.0535	
p-Value =	2.36E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

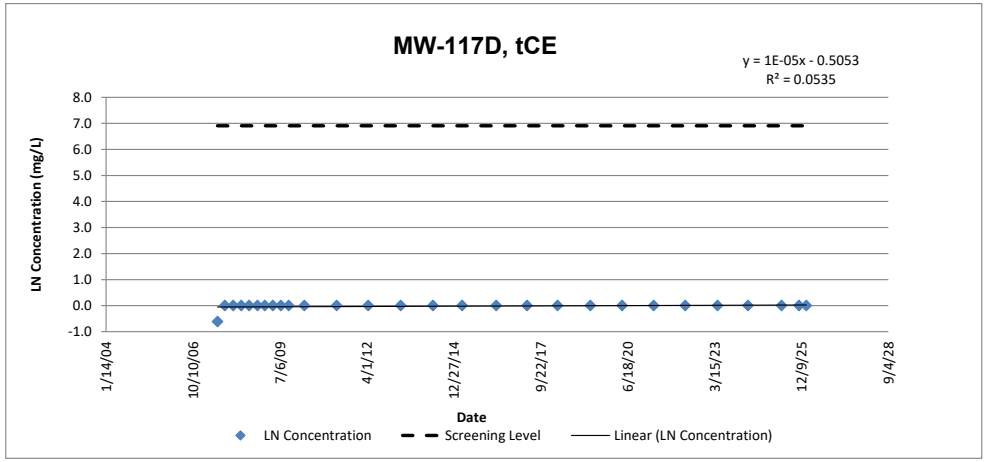
Date Screening Level Reached	
Screening Level	30,000
LN Screening Level	10.3
Intercept	-0.505
Slope	0.0000
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-117D**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/19/07	0.54	-0.62
10/11/07	1	0.00
1/15/08	1	0.00
4/16/08	1	0.00
7/16/08	1	0.00
10/21/08	1	0.00
1/13/09	1	0.00
4/14/09	1	0.00
7/15/09	1	0.00
10/14/09	1	0.00
4/13/10	1	0.00
4/20/11	1	0.00
4/16/12	1	0.00
4/24/13	1	0.00
5/1/14	1	0.00
4/2/15	1	0.00
4/28/16	1	0.00
4/17/17	1	0.00
4/3/18	1	0.00
4/15/19	1	0.00
4/16/20	1	0.00
4/13/21	1	0.00
4/12/22	1	0.00
4/17/23	1	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/10/25	1	0.00
2/2/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	27
% of data as detects	4

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	0.0535	
p-Value =	2.36E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

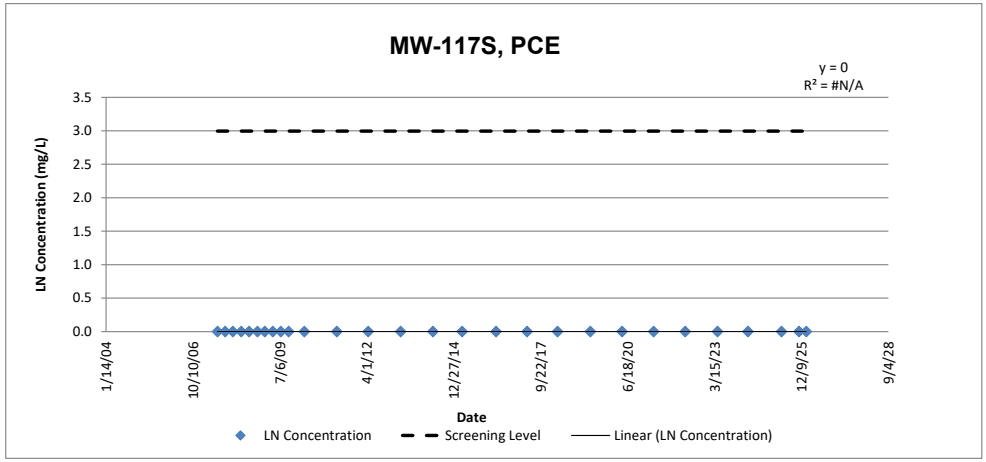
Date Screening Level Reached	
Screening Level	1,000
LN Screening Level	6.9
Intercept	-0.505
Slope	0.0000
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-117S**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/18/07	1	0.00
10/15/07	1	0.00
1/11/08	1	0.00
4/16/08	1	0.00
7/16/08	1	0.00
10/21/08	1	0.00
1/13/09	1	0.00
4/14/09	1	0.00
7/15/09	1	0.00
10/14/09	1	0.00
4/13/10	1	0.00
4/21/11	1	0.00
4/16/12	1	0.00
4/24/13	1	0.00
5/1/14	1	0.00
4/2/15	1	0.00
4/27/16	1	0.00
4/17/17	1	0.00
4/3/18	1	0.00
4/15/19	1	0.00
4/16/20	1	0.00
4/13/21	1	0.00
4/12/22	1	0.00
4/17/23	1	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/10/25	1	0.00
2/2/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	28
% of data as detects	0

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	#DIV/0!	
p-Value =	#NUM!	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	#DIV/0!	days

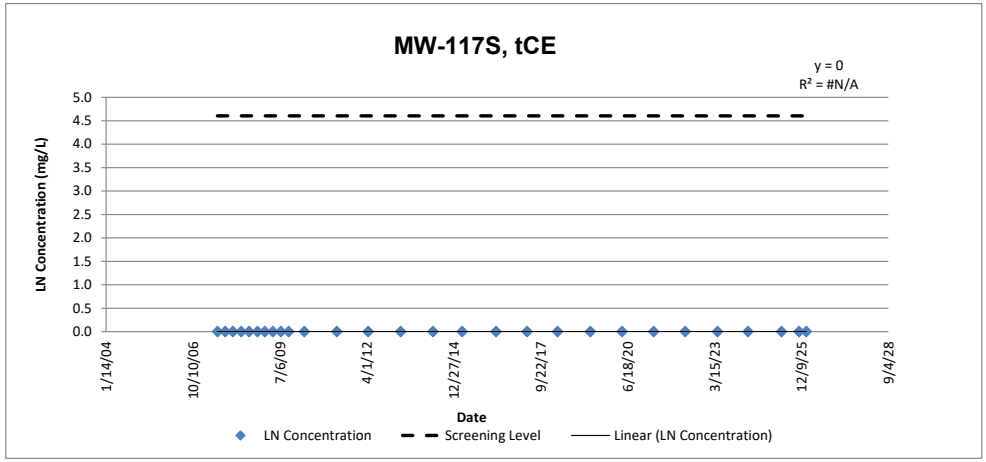
Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	0.000
Slope	0.0000
Date to Screening Level	#DIV/0!

(N/A b/c all data is non-detect)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-117S**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/18/07	1	0.00
10/15/07	1	0.00
1/11/08	1	0.00
4/16/08	1	0.00
7/16/08	1	0.00
10/21/08	1	0.00
1/13/09	1	0.00
4/14/09	1	0.00
7/15/09	1	0.00
10/14/09	1	0.00
4/13/10	1	0.00
4/21/11	1	0.00
4/16/12	1	0.00
4/24/13	1	0.00
5/1/14	1	0.00
4/2/15	1	0.00
4/27/16	1	0.00
4/17/17	1	0.00
4/3/18	1	0.00
4/15/19	1	0.00
4/16/20	1	0.00
4/13/21	1	0.00
4/12/22	1	0.00
4/17/23	1	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/10/25	1	0.00
2/2/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	28
% of data as detects	0

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	#DIV/0!	
p-Value =	#NUM!	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	#DIV/0!	days

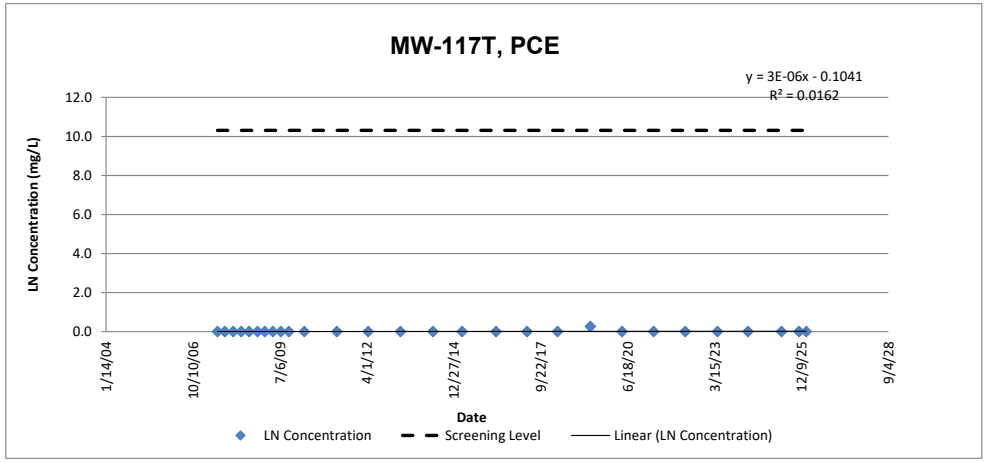
Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	0.000
Slope	0.0000
Date to Screening Level	#DIV/0!

(N/A b/c all data is non-detect)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-117T**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/19/07	1	0.00
10/11/07	1	0.00
1/15/08	1	0.00
4/16/08	1	0.00
7/16/08	1	0.00
10/21/08	1	0.00
1/13/09	1	0.00
4/14/09	1	0.00
7/15/09	1	0.00
10/16/09	1	0.00
4/13/10	1	0.00
4/21/11	1	0.00
4/16/12	1	0.00
4/23/13	1	0.00
5/1/14	1	0.00
4/2/15	1	0.00
4/27/16	1	0.00
4/17/17	1	0.00
4/3/18	1	0.00
4/15/19	1.3	0.26
4/16/20	1	0.00
4/13/21	1	0.00
4/12/22	1	0.00
4/17/23	1	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/10/25	1	0.00
2/2/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	27
% of data as detects	4

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	0.0162	
p-Value =	5.18E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

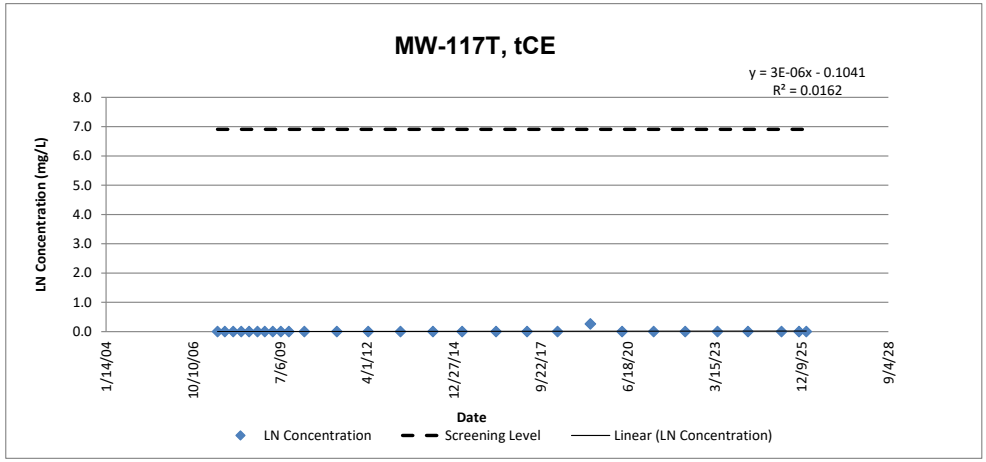
Date Screening Level Reached	
Screening Level	30,000
LN Screening Level	10.3
Intercept	-0.104
Slope	0.0000
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-117T**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/19/07	1	0.00
10/11/07	1	0.00
1/15/08	1	0.00
4/16/08	1	0.00
7/16/08	1	0.00
10/21/08	1	0.00
1/13/09	1	0.00
4/14/09	1	0.00
7/15/09	1	0.00
10/16/09	1	0.00
4/13/10	1	0.00
4/21/11	1	0.00
4/16/12	1	0.00
4/23/13	1	0.00
5/1/14	1	0.00
4/2/15	1	0.00
4/27/16	1	0.00
4/17/17	1	0.00
4/3/18	1	0.00
4/15/19	1.3	0.26
4/16/20	1	0.00
4/13/21	1	0.00
4/12/22	1	0.00
4/17/23	1	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/10/25	1	0.00
2/2/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	27
% of data as detects	4

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	0.0162	
p-Value =	5.18E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

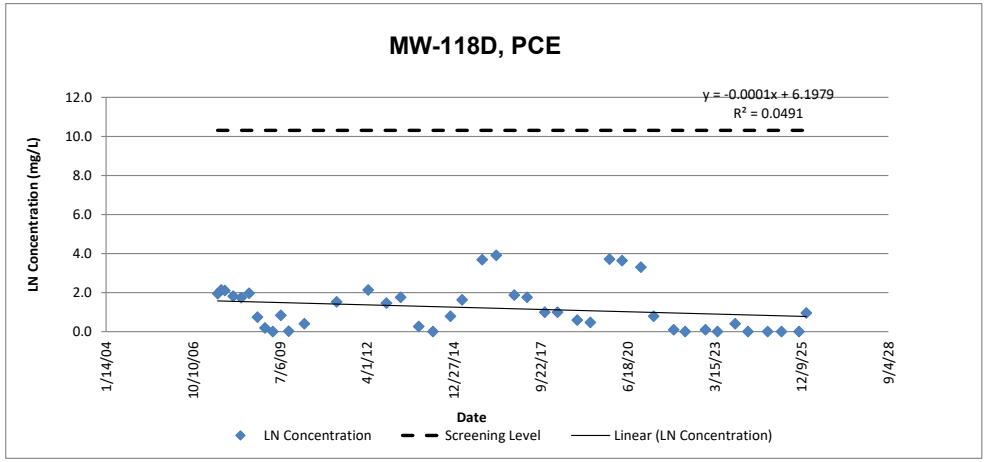
Date Screening Level Reached	
Screening Level	1,000
LN Screening Level	6.9
Intercept	-0.104
Slope	0.0000
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-118D**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/20/07	7.0	1.95
8/30/07	8.4	2.13
10/11/07	8.2	2.10
1/16/08	6.1	1.81
4/16/08	5.7	1.74
7/16/08	7.1	1.96
10/21/08	2.1	0.74
1/14/09	1.2	0.18
4/14/09	1	0.00
7/15/09	2.3	0.83
10/14/09	1.0	0.01
4/12/10	1.5	0.41
4/20/11	4.6	1.53
4/16/12	8.4	2.13
11/12/12	4.3	1.46
4/24/13	5.8	1.76
11/18/13	1.3	0.26
5/1/14	1	0.00
11/18/14	2.2	0.79
4/2/15	5.1	1.63
11/19/15	40	3.68
4/28/16	50	3.91
11/21/16	6.5	1.87
4/17/17	5.8	1.76
11/8/17	2.7	0.99
4/3/18	2.7	0.99
11/15/18	1.8	0.59
4/15/19	1.6	0.47
11/22/19	41	3.71
4/16/20	38	3.64
11/18/20	27	3.30
4/13/21	2.2	0.79
11/30/21	1.1	0.10
4/12/22	1	0.00
11/29/22	1.1	0.10
4/17/23	1	0.00
11/7/23	1.5	0.41
4/2/24	1	0.00
11/14/24	1	0.00
4/22/25	1	0.00
11/10/25	1	0.00
2/2/26	2.6	0.96



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	42
# of nondetects	9
% of data as detects	79

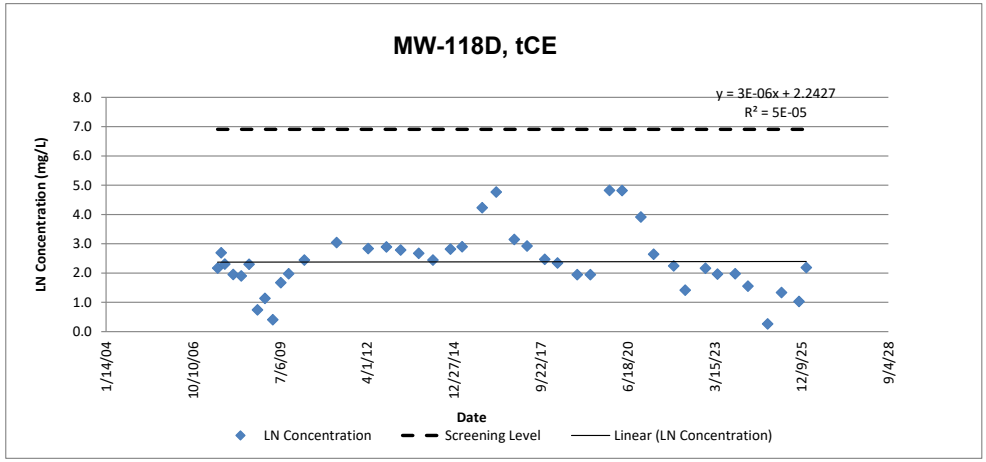
Results		
Coefficient of Determination (R^2) =	0.0491	
p-Value =	1.59E-01	
Attenuation Rate in Groundwater (K) =	0.0001	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	5.89E+03	days

Date Screening Level Reached		
Screening Level	30,000	
LN Screening Level	10.3	
Intercept	6.198	
Slope	-0.0001	
Date to Screening Level	###########	(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-118D**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/20/07	8.8	2.17
8/30/07	15	2.69
10/11/07	10	2.30
1/16/08	7.0	1.95
4/16/08	6.7	1.90
7/16/08	10	2.30
10/21/08	2.1	0.74
1/14/09	3.1	1.13
4/14/09	1.5	0.41
7/15/09	5.3	1.67
10/14/09	7.2	1.98
4/12/10	12	2.44
4/20/11	21	3.04
4/16/12	17	2.83
11/12/12	18	2.89
4/24/13	16	2.79
11/18/13	14	2.67
5/1/14	11	2.44
11/18/14	17	2.81
4/2/15	18	2.90
11/19/15	69	4.23
4/28/16	117	4.76
11/21/16	23	3.14
4/17/17	19	2.92
11/8/17	12	2.47
4/3/18	10	2.34
11/15/18	7.0	1.95
4/15/19	7.0	1.95
11/22/19	124	4.82
4/16/20	123	4.82
11/18/20	50	3.91
4/13/21	14	2.64
11/30/21	9.4	2.24
4/12/22	4.1	1.41
11/29/22	8.7	2.16
4/17/23	7.1	1.96
11/7/23	7.2	1.97
4/2/24	4.7	1.55
11/14/24	1.3	0.26
4/22/25	3.8	1.34
11/10/25	2.8	1.03
2/2/26	8.9	2.19



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	42
# of nondetects	1
% of data as detects	98

Results		
Coefficient of Determination (R^2) =	0.0000	
p-Value =	9.65E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

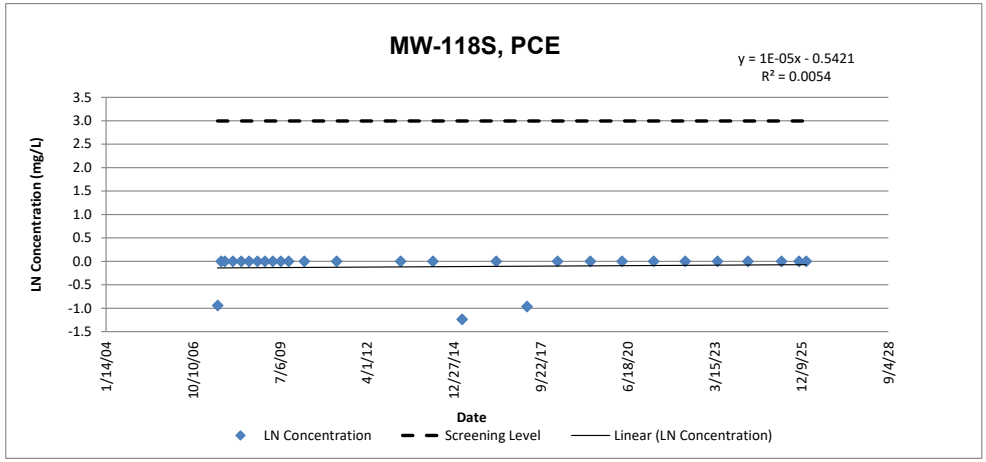
Date Screening Level Reached	
Screening Level	1,000
LN Screening Level	6.9
Intercept	2.243
Slope	0.0000
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-118S**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/20/07	0.39	-0.94
8/30/07	1	0.00
10/11/07	1	0.00
1/11/08	1	0.00
4/16/08	1	0.00
7/15/08	1	0.00
10/21/08	1	0.00
1/14/09	1	0.00
4/15/09	1	0.00
7/15/09	1	0.00
10/14/09	1	0.00
4/12/10	1	0.00
4/20/11	1	0.00
4/24/13	1	0.00
5/1/14	1	0.00
4/2/15	0.29	-1.24
4/28/16	1	0.00
4/17/17	0.38	-0.97
4/3/18	1	0.00
4/15/19	1	0.00
4/16/20	1	0.00
4/13/21	1	0.00
4/12/22	1	0.00
4/17/23	1	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/10/25	1	0.00
2/2/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	25
% of data as detects	11

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	0.0054	
p-Value =	7.10E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

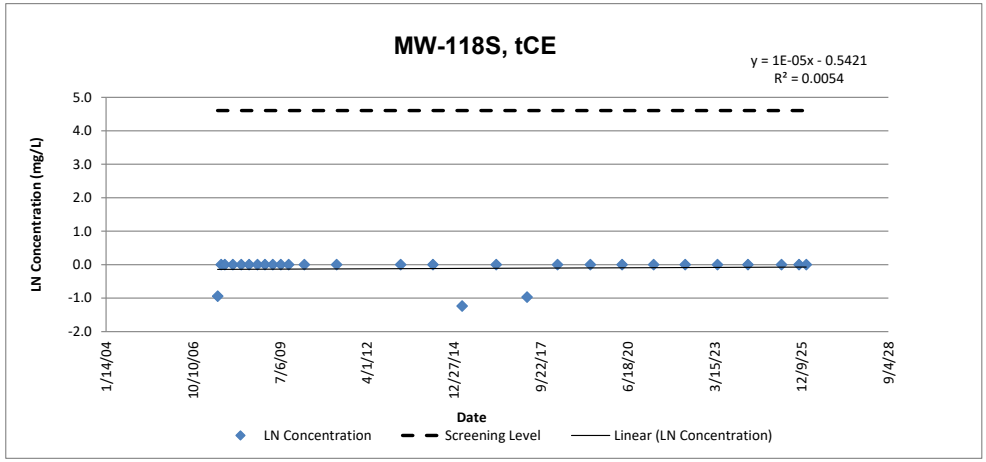
Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	-0.542
Slope	0.0000
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-118S**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/20/07	0.39	-0.94
8/30/07	1	0.00
10/11/07	1	0.00
1/11/08	1	0.00
4/16/08	1	0.00
7/15/08	1	0.00
10/21/08	1	0.00
1/14/09	1	0.00
4/15/09	1	0.00
7/15/09	1	0.00
10/14/09	1	0.00
4/12/10	1	0.00
4/20/11	1	0.00
4/24/13	1	0.00
5/1/14	1	0.00
4/2/15	0.29	-1.24
4/28/16	1	0.00
4/17/17	0.38	-0.97
4/3/18	1	0.00
4/15/19	1	0.00
4/16/20	1	0.00
4/13/21	1	0.00
4/12/22	1	0.00
4/17/23	1	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/10/25	1	0.00
2/2/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	25
% of data as detects	11

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	0.0054	
p-Value =	7.10E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

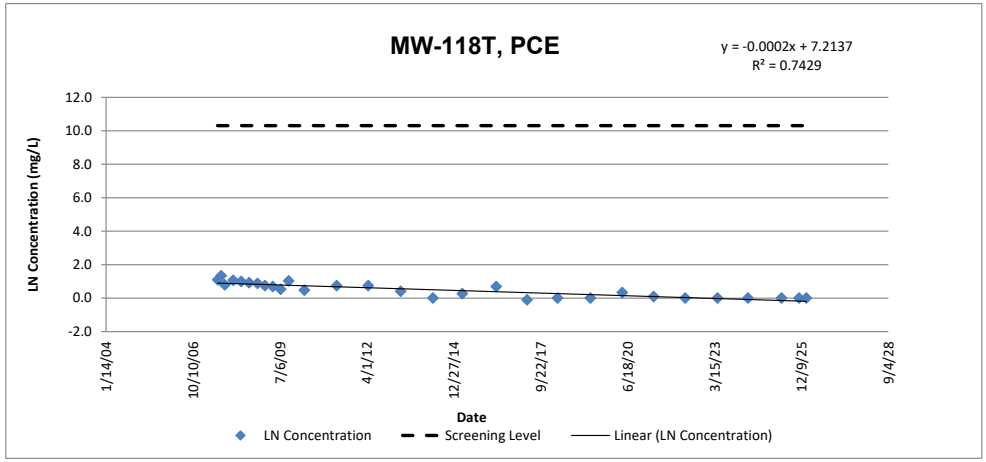
Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	-0.542
Slope	0.0000
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-118T**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/20/07	3.0	1.10
8/30/07	3.8	1.34
10/11/07	2.2	0.79
1/15/08	2.9	1.06
4/16/08	2.7	0.99
7/15/08	2.5	0.92
10/21/08	2.4	0.88
1/14/09	2.1	0.74
4/14/09	2.0	0.69
7/14/09	1.7	0.53
10/15/09	2.8	1.03
4/12/10	1.6	0.47
4/20/11	2.1	0.74
4/17/12	2.1	0.74
4/24/13	1.5	0.41
5/1/14	1.0	0.00
4/3/15	1.3	0.26
4/28/16	2.0	0.69
4/17/17	0.9	-0.11
4/3/18	1	0.00
4/16/19	1	0.00
4/17/20	1.4	0.34
4/13/21	1.1	0.10
4/12/22	1	0.00
4/17/23	1.0	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/10/25	1	0.00
2/2/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	29
# of nondetects	7
% of data as detects	76

Results		
Coefficient of Determination (R^2) =	0.7429	
p-Value =	1.89E-09	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	4.31E+03	days

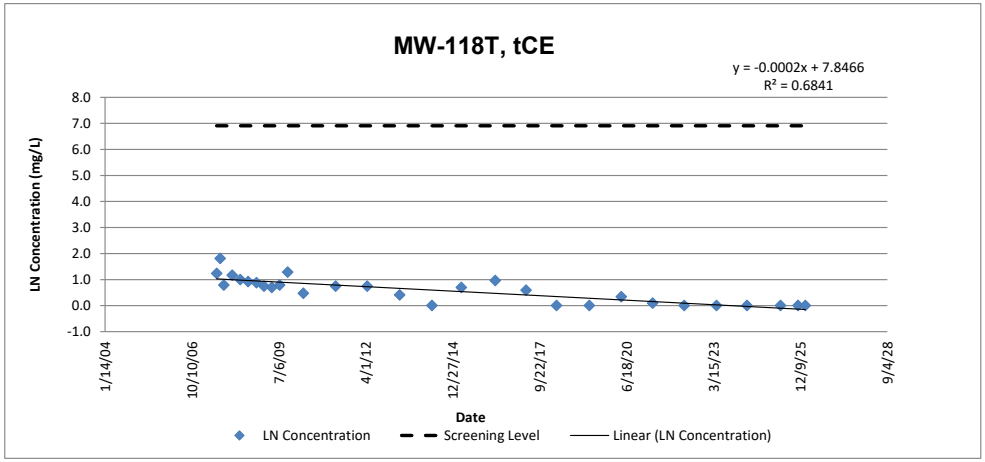
Date Screening Level Reached	
Screening Level	30,000
LN Screening Level	10.3
Intercept	7.214
Slope	-0.0002
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-118T**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/20/07	3.5	1.24
8/30/07	6.1	1.81
10/11/07	2.2	0.79
1/15/08	3.2	1.17
4/16/08	2.7	0.99
7/15/08	2.5	0.92
10/21/08	2.4	0.88
1/14/09	2.1	0.74
4/14/09	2.0	0.69
7/14/09	2.2	0.79
10/15/09	3.6	1.28
4/12/10	1.6	0.47
4/20/11	2.1	0.74
4/17/12	2.1	0.74
4/24/13	1.5	0.41
5/1/14	1.0	0.00
4/3/15	2.0	0.70
4/28/16	2.6	0.96
4/17/17	1.8	0.59
4/3/18	1	0.00
4/16/19	1	0.00
4/17/20	1.4	0.34
4/13/21	1.1	0.10
4/12/22	1	0.00
4/17/23	1.0	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/10/25	1	0.00
2/2/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	29
# of nondetects	7
% of data as detects	76

Results		
Coefficient of Determination (R^2) =	0.6841	
p-Value =	3.17E-08	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	3.99E+03	days

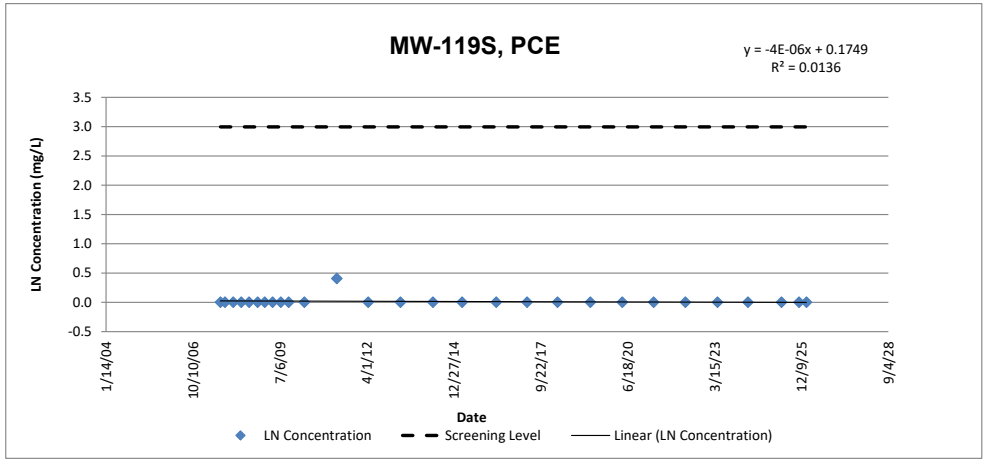
Date Screening Level Reached	
Screening Level	1,000
LN Screening Level	6.9
Intercept	7.847
Slope	-0.0002
Date to Screening Level	10/20/1914

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-119S**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/22/07	1	0.00
10/12/07	1	0.00
1/15/08	1	0.00
4/16/08	1	0.00
7/15/08	1	0.00
10/22/08	1	0.00
1/13/09	1	0.00
4/13/09	1	0.00
7/15/09	1	0.00
10/15/09	1	0.00
4/13/10	1	0.00
4/22/11	1.5	0.41
4/16/12	1	0.00
4/23/13	1	0.00
5/1/14	1	0.00
4/2/15	1	0.00
4/28/16	1	0.00
4/18/17	1	0.00
4/3/18	1	0.00
4/16/19	1	0.00
4/17/20	1	0.00
4/14/21	1	0.00
4/13/22	1	0.00
4/17/23	1	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/11/25	1	0.00
2/4/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	27
% of data as detects	4

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	0.0136	
p-Value =	5.55E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

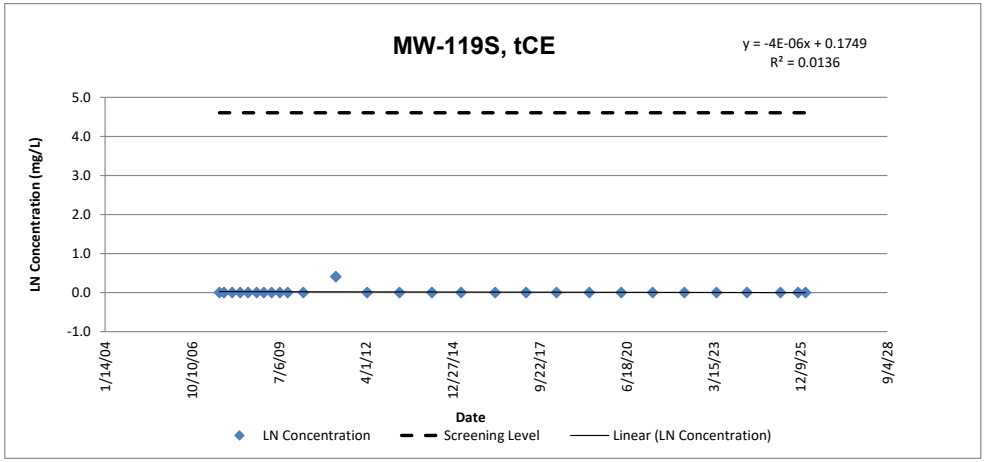
Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	0.175
Slope	0.0000
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-119S**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/22/07	1	0.00
10/12/07	1	0.00
1/15/08	1	0.00
4/16/08	1	0.00
7/15/08	1	0.00
10/22/08	1	0.00
1/13/09	1	0.00
4/13/09	1	0.00
7/15/09	1	0.00
10/15/09	1	0.00
4/13/10	1	0.00
4/22/11	1.5	0.41
4/16/12	1	0.00
4/23/13	1	0.00
5/1/14	1	0.00
4/2/15	1	0.00
4/28/16	1	0.00
4/18/17	1	0.00
4/3/18	1	0.00
4/16/19	1	0.00
4/17/20	1	0.00
4/14/21	1	0.00
4/13/22	1	0.00
4/17/23	1	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/11/25	1	0.00
2/4/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	27
% of data as detects	4

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	0.0136	
p-Value =	5.55E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

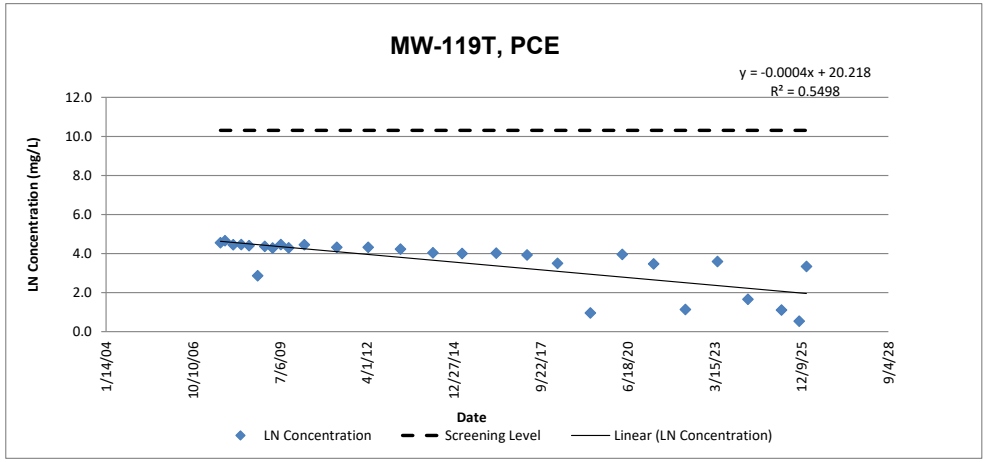
Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	0.175
Slope	0.0000
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-119T**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/22/07	94	4.55
10/12/07	105	4.65
1/16/08	85	4.44
4/16/08	86	4.46
7/15/08	81	4.40
10/22/08	18	2.86
1/13/09	79	4.37
4/13/09	72	4.28
7/15/09	86	4.45
10/15/09	73	4.28
4/13/10	85	4.45
4/22/11	75	4.31
4/16/12	75	4.32
4/23/13	69	4.23
5/1/14	56	4.03
4/2/15	55	4.00
4/28/16	56	4.02
4/18/17	51	3.92
4/3/18	33	3.50
4/16/19	2.6	0.96
4/17/20	52	3.95
4/14/21	32	3.47
4/13/22	3.1	1.13
4/17/23	36	3.58
4/2/24	5.2	1.65
4/22/25	3.0	1.10
11/13/25	1.7	0.53
2/4/26	28.0	3.33



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	0
% of data as detects	100

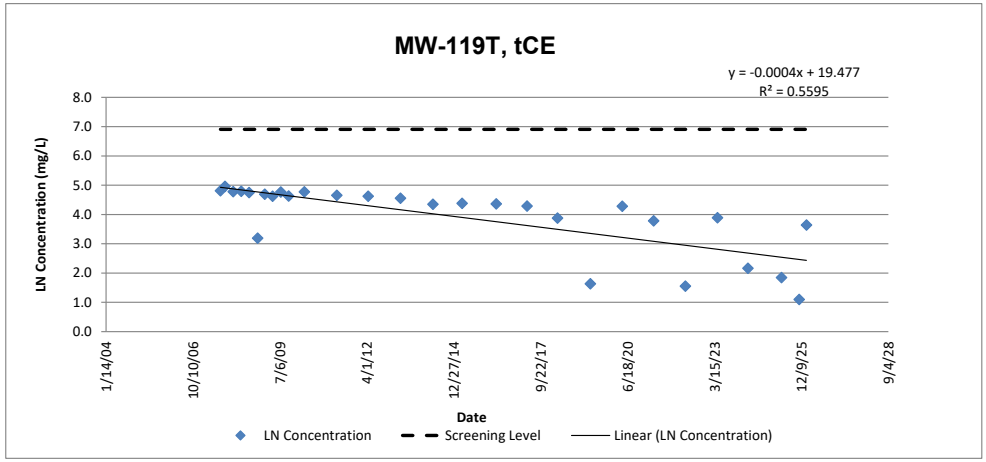
Results		
Coefficient of Determination (R^2) =	0.5498	
p-Value =	6.35E-06	
Attenuation Rate in Groundwater (K) =	0.0004	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0003	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	1.75E+03	days

Date Screening Level Reached	
Screening Level	30,000
LN Screening Level	10.3
Intercept	20.218
Slope	-0.0004
Date to Screening Level	5/29/1968

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-119T**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/22/07	123	4.81
10/12/07	142	4.96
1/16/08	119	4.78
4/16/08	121	4.79
7/15/08	115	4.74
10/22/08	24	3.19
1/13/09	109	4.69
4/13/09	102	4.62
7/15/09	117	4.77
10/15/09	103	4.63
4/13/10	118	4.77
4/22/11	105	4.65
4/16/12	101	4.62
4/23/13	95	4.55
5/1/14	77	4.35
4/2/15	80	4.38
4/28/16	78	4.36
4/18/17	73	4.29
4/3/18	48	3.88
4/16/19	5.1	1.63
4/17/20	72	4.28
4/14/21	44	3.78
4/13/22	4.7	1.55
4/17/23	49	3.88
4/2/24	8.7	2.16
4/22/25	6.3	1.84
11/13/25	3.0	1.10
2/4/26	38.0	3.64



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	0
% of data as detects	100

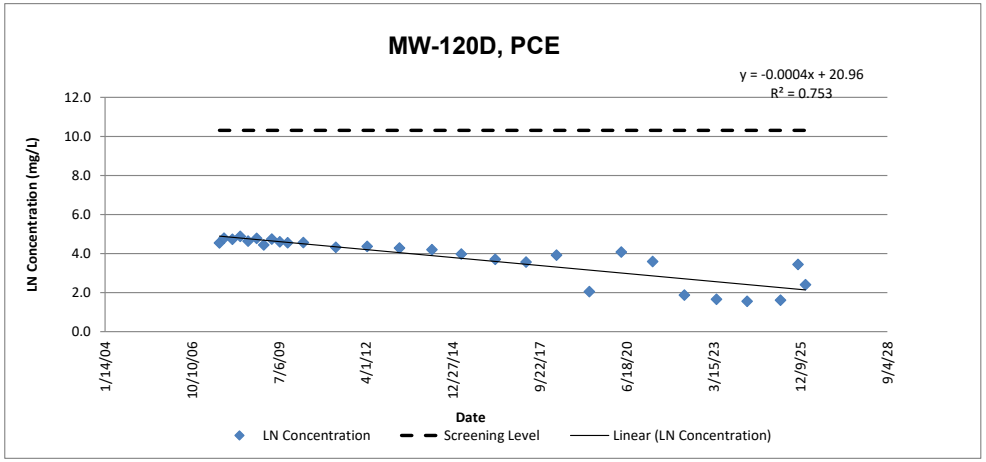
Results		
Coefficient of Determination (R^2) =	0.5595	
p-Value =	4.75E-06	
Attenuation Rate in Groundwater (K) =	0.0004	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0003	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	1.87E+03	days

Date Screening Level Reached	
Screening Level	1,000
LN Screening Level	6.9
Intercept	19.477
Slope	-0.0004
Date to Screening Level	12/28/1992

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-120D**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/22/07	94	4.54
10/12/07	120	4.79
1/17/08	113	4.73
4/16/08	131	4.88
7/15/08	103	4.63
10/22/08	118	4.77
1/13/09	84	4.43
4/14/09	114	4.74
7/15/09	99	4.60
10/15/09	95	4.55
4/13/10	96	4.56
4/22/11	75	4.32
4/16/12	79	4.36
4/23/13	72	4.28
5/1/14	66	4.20
4/3/15	53	3.97
4/28/16	40	3.70
4/18/17	35	3.56
4/4/18	49.9	3.91
4/16/19	7.7	2.04
4/17/20	59	4.08
4/14/21	36	3.58
4/13/22	6.5	1.87
4/18/23	5.2	1.65
4/3/24	4.7	1.55
4/22/25	5.0	1.61
11/11/25	31.0	3.43
2/4/26	11.0	2.40



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	0
% of data as detects	100

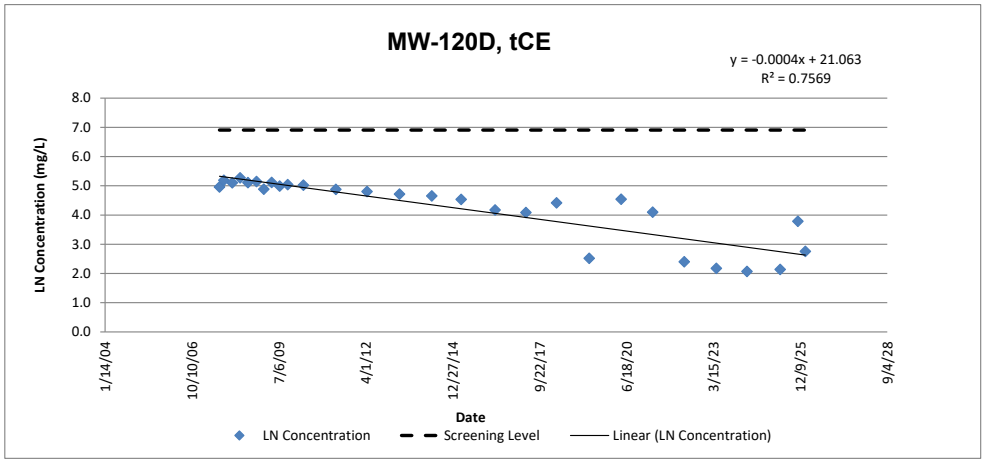
Results		
Coefficient of Determination (R^2) =	0.7530	
p-Value =	2.25E-09	
Attenuation Rate in Groundwater (K) =	0.0004	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0003	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	1.70E+03	days

Date Screening Level Reached	
Screening Level	30,000
LN Screening Level	10.3
Intercept	20.960
Slope	-0.0004
Date to Screening Level	5/9/1971

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-120D**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/22/07	142	4.96
10/12/07	179	5.19
1/17/08	164	5.10
4/16/08	194	5.27
7/15/08	166	5.11
10/22/08	171	5.14
1/13/09	132	4.88
4/14/09	166	5.11
7/15/09	147	4.99
10/15/09	155	5.04
4/13/10	152	5.02
4/22/11	131	4.88
4/16/12	122	4.80
4/23/13	112	4.71
5/1/14	105	4.66
4/3/15	93	4.53
4/28/16	65	4.17
4/18/17	60	4.09
4/4/18	83	4.41
4/16/19	12	2.52
4/17/20	94	4.54
4/14/21	60	4.09
4/13/22	11	2.40
4/18/23	8.8	2.17
4/3/24	7.9	2.07
4/22/25	8.5	2.14
11/11/25	44.0	3.78
2/4/26	15.7	2.75



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	0
% of data as detects	100

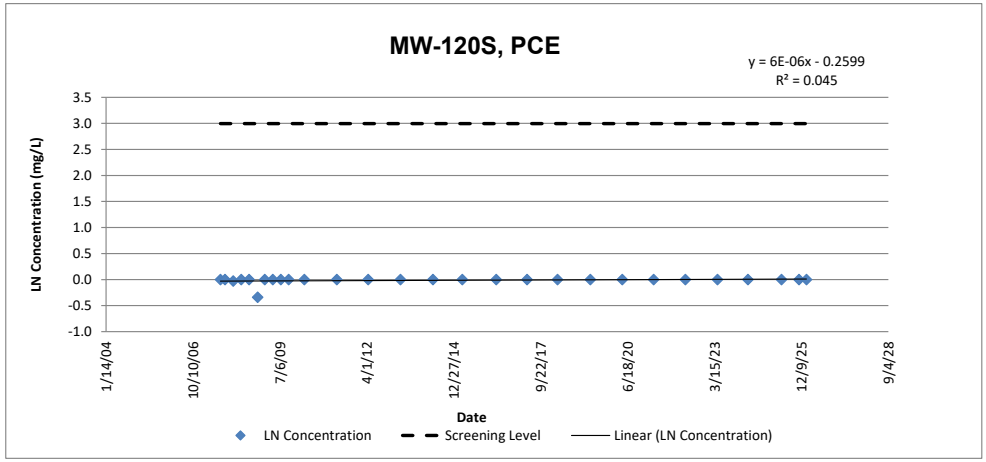
Results		
Coefficient of Determination (R^2) =	0.7569	
p-Value =	1.83E-09	
Attenuation Rate in Groundwater (K) =	0.0004	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0003	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	1.73E+03	days

Date Screening Level Reached	
Screening Level	1,000
LN Screening Level	6.9
Intercept	21.063
Slope	-0.0004
Date to Screening Level	10/29/1996

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-120S**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
8/22/07	1	0.00
10/12/07	1	0.00
1/15/08	0.97	-0.03
4/16/08	1	0.00
7/15/08	1	0.00
10/22/08	0.71	-0.34
1/13/09	1	0.00
4/14/09	1	0.00
7/15/09	1	0.00
10/15/09	1	0.00
4/13/10	1	0.00
4/22/11	1	0.00
4/16/12	1	0.00
4/23/13	1	0.00
5/1/14	1	0.00
4/3/15	1	0.00
4/28/16	1	0.00
4/18/17	1	0.00
4/4/18	1	0.00
4/16/19	1	0.00
4/17/20	1	0.00
4/14/21	1	0.00
4/13/22	1	0.00
4/18/23	1	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/11/25	1	0.00
2/4/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	26
% of data as detects	7

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	0.0450	
p-Value =	2.79E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

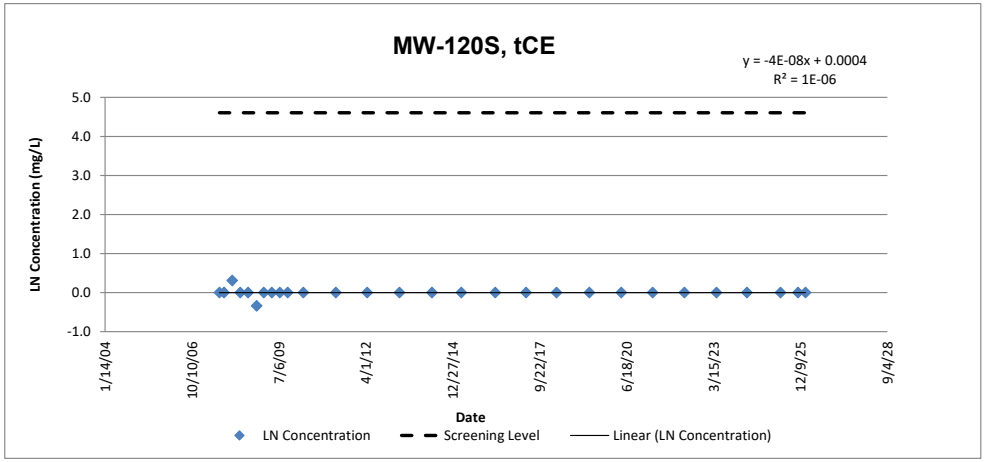
Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	-0.260
Slope	0.0000
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-120S**
Constituent tCE

Data		
Sample Date	Concentration (ug/L)	LN Concentration
8/22/07	1	0.00
10/12/07	1	0.00
1/15/08	1.4	0.31
4/16/08	1	0.00
7/15/08	1	0.00
10/22/08	0.71	-0.34
1/13/09	1	0.00
4/14/09	1	0.00
7/15/09	1	0.00
10/15/09	1	0.00
4/13/10	1	0.00
4/22/11	1	0.00
4/16/12	1	0.00
4/23/13	1	0.00
5/1/14	1	0.00
4/3/15	1	0.00
4/28/16	1	0.00
4/18/17	1	0.00
4/4/18	1	0.00
4/16/19	1	0.00
4/17/20	1	0.00
4/14/21	1	0.00
4/13/22	1	0.00
4/18/23	1	0.00
4/2/24	1	0.00
4/22/25	1	0.00
11/11/25	1	0.00
2/4/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	26
% of data as detects	7

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	0.0000	
p-Value =	9.96E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

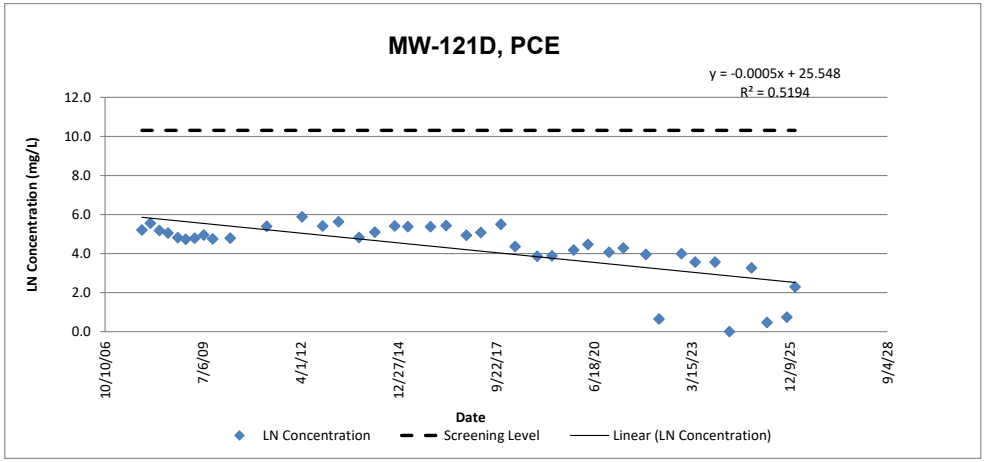
Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	0.000
Slope	0.0000
Date to Screening Level	NA

(N/A b/c data has always been below screening level)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-121D**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
10/22/07	182	5.20
1/15/08	258	5.55
4/17/08	177	5.18
7/14/08	156	5.05
10/22/08	123	4.81
1/12/09	113	4.73
4/13/09	120	4.78
7/14/09	140	4.94
10/14/09	115	4.74
4/12/10	119	4.78
4/20/11	219	5.39
4/16/12	356	5.87
11/12/12	223	5.41
4/23/13	276	5.62
11/18/13	124	4.82
4/30/14	163	5.09
11/18/14	224	5.41
4/2/15	216	5.38
11/19/15	216	5.38
4/28/16	227	5.42
11/21/16	139	4.93
4/17/17	160	5.08
11/8/17	242	5.49
4/3/18	78	4.36
11/15/18	48	3.86
4/15/19	48	3.88
11/22/19	65	4.17
4/16/20	87	4.47
11/18/20	58	4.06
4/13/21	72	4.28
11/30/21	52	3.95
4/13/22	1.9	0.64
11/29/22	54	3.99
4/18/23	35	3.56
11/7/23	35	3.56
4/3/24	1	0.00
11/14/24	26	3.26
4/22/25	1.6	0.47
11/11/25	2.1	0.74
2/3/26	9.9	2.29



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	40
# of nondetects	1
% of data as detects	98

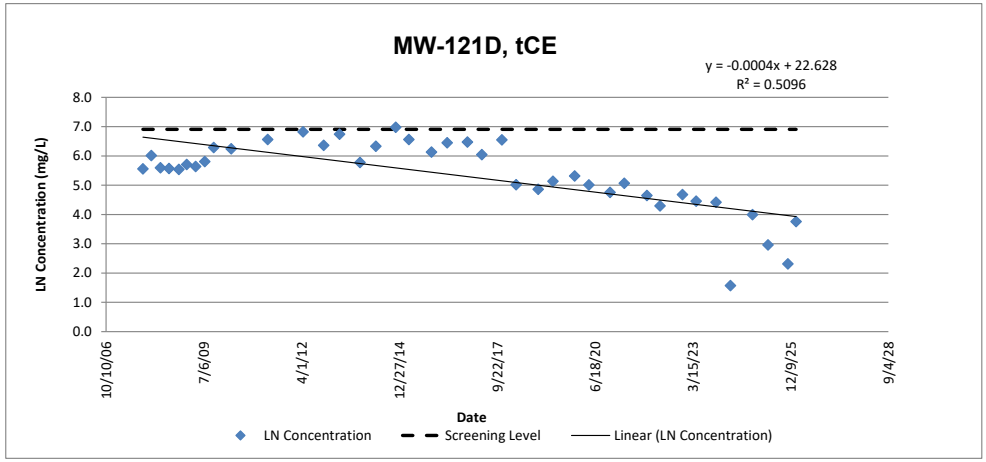
Results		
Coefficient of Determination (R^2) =	0.5194	
p-Value =	1.57E-07	
Attenuation Rate in Groundwater (K) =	0.0005	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0004	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	1.39E+03	days

Date Screening Level Reached	
Screening Level	30,000
LN Screening Level	10.3
Intercept	25.548
Slope	-0.0005
Date to Screening Level	6/7/1983

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-121D**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
10/22/07	259	5.56
1/15/08	407	6.01
4/17/08	269	5.59
7/14/08	262	5.57
10/22/08	255	5.54
1/12/09	300	5.70
4/13/09	280	5.63
7/14/09	333	5.81
10/14/09	536	6.28
4/12/10	512	6.24
4/20/11	706	6.56
4/16/12	917	6.82
11/12/12	578	6.36
4/23/13	846	6.74
11/18/13	322	5.78
4/30/14	561	6.33
11/18/14	1071	6.98
4/2/15	707	6.56
11/19/15	460	6.13
4/28/16	630	6.45
11/21/16	646	6.47
4/17/17	421	6.04
11/8/17	697	6.55
4/3/18	150	5.01
11/15/18	128	4.86
4/15/19	170	5.13
11/22/19	203	5.32
4/16/20	150	5.01
11/18/20	116	4.75
4/13/21	158	5.06
11/30/21	104	4.65
4/13/22	73	4.29
11/29/22	107	4.68
4/18/23	86	4.46
11/7/23	83	4.42
4/3/24	4.8	1.57
11/14/24	54	3.99
4/22/25	19	2.96
11/11/25	10	2.31
2/3/26	43	3.75



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	40
# of nondetects	0
% of data as detects	100

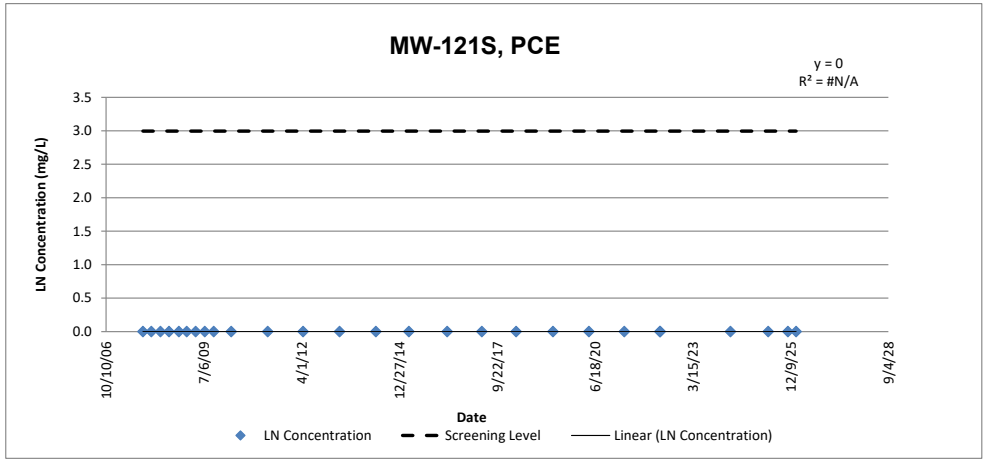
Results		
Coefficient of Determination (R^2) =	0.5096	
p-Value =	2.33E-07	
Attenuation Rate in Groundwater (K) =	0.0004	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0003	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	1.71E+03	days

Date Screening Level Reached	
Screening Level	1,000
LN Screening Level	6.9
Intercept	22.628
Slope	-0.0004
Date to Screening Level	1/3/2006

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-121S**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
10/22/07	1	0.00
1/15/08	1	0.00
4/17/08	1	0.00
7/14/08	1	0.00
10/22/08	1	0.00
1/12/09	1	0.00
4/13/09	1	0.00
7/14/09	1	0.00
10/14/09	1	0.00
4/12/10	1	0.00
4/20/11	1	0.00
4/16/12	1	0.00
4/23/13	1	0.00
4/30/14	1	0.00
4/2/15	1	0.00
4/28/16	1	0.00
4/17/17	1	0.00
4/3/18	1	0.00
4/15/19	1	0.00
4/16/20	1	0.00
4/13/21	1	0.00
4/13/22	1	0.00
4/13/22	1	0.00
4/3/24	1	0.00
4/23/25	1	0.00
11/11/25	1	0.00
2/3/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	27
# of nondetects	27
% of data as detects	0

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	#DIV/0!	
p-Value =	#NUM!	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	#DIV/0!	days

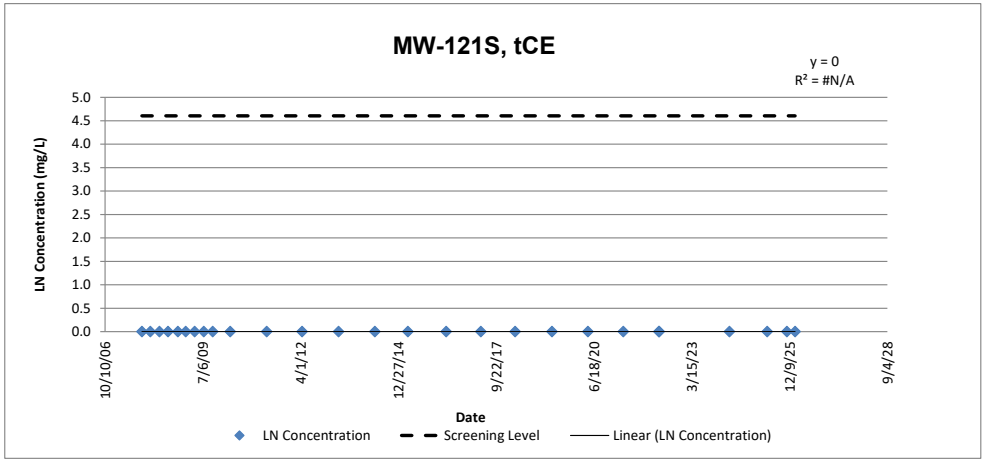
Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	0.000
Slope	0.0000
Date to Screening Level	#DIV/0!

(N/A b/c all data is non-detect)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-121S**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
10/22/07	1	0.00
1/15/08	1	0.00
4/17/08	1	0.00
7/14/08	1	0.00
10/22/08	1	0.00
1/12/09	1	0.00
4/13/09	1	0.00
7/14/09	1	0.00
10/14/09	1	0.00
4/12/10	1	0.00
4/20/11	1	0.00
4/16/12	1	0.00
4/23/13	1	0.00
4/30/14	1	0.00
4/2/15	1	0.00
4/28/16	1	0.00
4/17/17	1	0.00
4/3/18	1	0.00
4/15/19	1	0.00
4/16/20	1	0.00
4/13/21	1	0.00
4/13/22	1	0.00
4/13/22	1	0.00
4/3/24	1	0.00
4/23/25	1	0.00
11/11/25	1	0.00
2/3/26	1	0.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	27
# of nondetects	27
% of data as detects	0

Less than 75% data above reporting limits.

Results		
Coefficient of Determination (R^2) =	#DIV/0!	
p-Value =	#NUM!	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	#DIV/0!	days

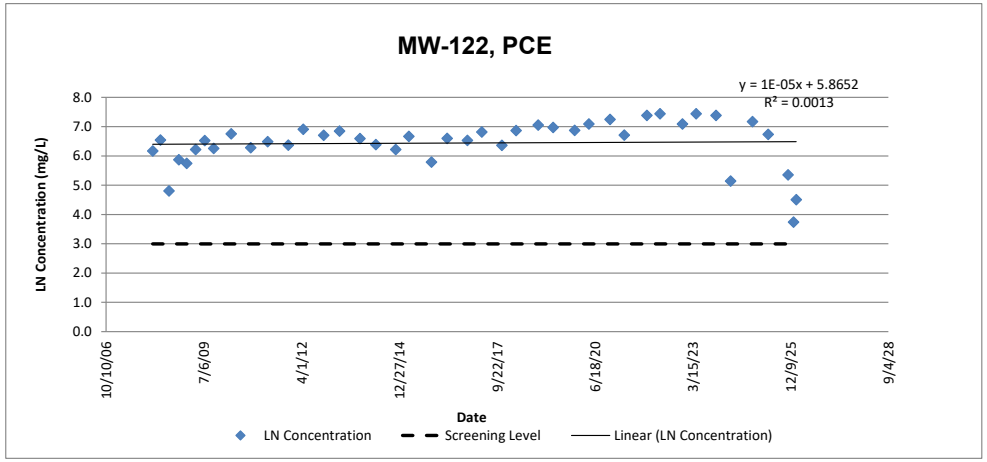
Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	0.000
Slope	0.0000
Date to Screening Level	#DIV/0!

(N/A b/c all data is non-detect)

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-122**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
1/30/08	477	6.17
4/17/08	691	6.54
7/14/08	122	4.80
10/22/08	352	5.86
1/12/09	312	5.74
4/13/09	499	6.21
7/15/09	677	6.52
10/14/09	518	6.25
4/12/10	856	6.75
10/27/10	532	6.28
4/20/11	656	6.49
11/16/11	581	6.36
4/17/12	1000	6.91
11/12/12	811	6.70
4/23/13	938	6.84
11/18/13	726	6.59
4/30/14	592	6.38
11/18/14	499	6.21
4/2/15	784	6.66
11/19/15	326	5.79
4/28/16	734	6.60
11/21/16	684	6.53
4/17/17	910	6.81
11/8/17	579	6.36
4/3/18	959	6.87
11/15/18	1150	7.05
4/16/19	1060	6.97
11/22/19	961	6.87
4/16/20	1200	7.09
11/18/20	1400	7.24
4/13/21	820	6.71
11/30/21	1600	7.38
4/13/22	1700	7.44
11/29/22	1200	7.09
4/17/23	1700	7.44
11/7/23	1600	7.38
4/4/24	170	5.14
11/14/24	1300	7.17
4/24/25	840	6.73
11/12/25	210	5.35
1/7/26	42	3.74
2/4/26	90	4.50



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	42
# of nondetects	0
% of data as detects	100

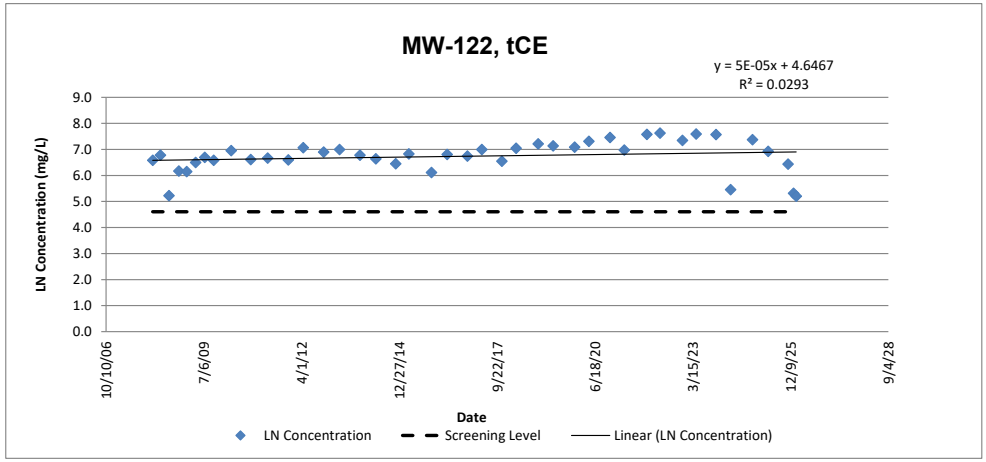
Results		
Coefficient of Determination (R^2) =	0.0013	
p-Value =	8.19E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	5.865
Slope	0.0000
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-122**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
1/30/08	720	6.58
4/17/08	877	6.78
7/14/08	184	5.22
10/22/08	476	6.16
1/12/09	468	6.15
4/13/09	660	6.49
7/15/09	807	6.69
10/14/09	719	6.58
4/12/10	1041	6.95
10/27/10	739	6.61
4/20/11	783	6.66
11/16/11	731	6.59
4/17/12	1171	7.07
11/12/12	988	6.90
4/23/13	1092	7.00
11/18/13	874	6.77
4/30/14	764	6.64
11/18/14	631	6.45
4/2/15	917	6.82
11/19/15	449	6.11
4/28/16	900	6.80
11/21/16	845	6.74
4/17/17	1087	6.99
11/8/17	698	6.55
4/3/18	1142	7.04
11/15/18	1350	7.21
4/16/19	1256	7.14
11/22/19	1195	7.09
4/16/20	1490	7.31
11/18/20	1732	7.46
4/13/21	1067	6.97
11/30/21	1950	7.58
4/13/22	2040	7.62
11/29/22	1540	7.34
4/17/23	1980	7.59
11/7/23	1939	7.57
4/4/24	233	5.45
11/14/24	1590	7.37
4/24/25	1016	6.92
11/12/25	620	6.43
1/7/26	203	5.31
2/4/26	181	5.20



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	42
# of nondetects	0
% of data as detects	100

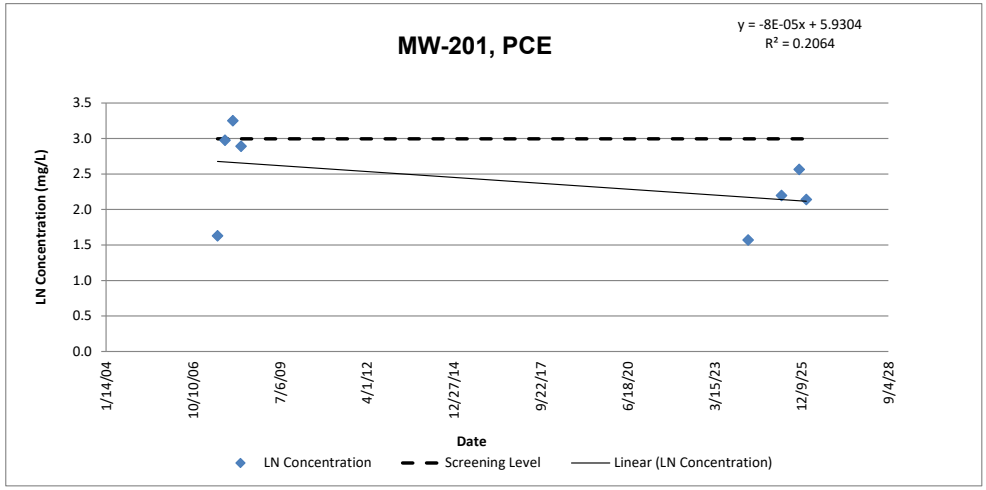
Results		
Coefficient of Determination (R^2) =	0.0293	
p-Value =	2.78E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	4.647
Slope	0.0000
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-201**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/19/07	5.1	1.63
10/12/07	19.6	2.98
1/11/08	25.8	3.25
4/15/08	18.0	2.89
4/3/24	4.8	1.57
4/23/25	9	2.20
11/12/25	13	2.56
2/3/26	9	2.14



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	8
# of nondetects	0
% of data as detects	100

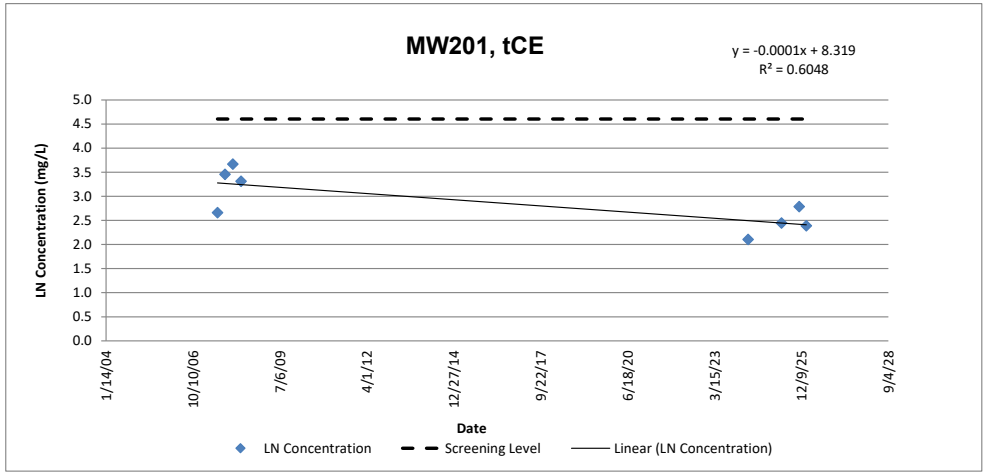
Results		
Coefficient of Determination (R^2) =	0.2064	
p-Value =	2.58E-01	
Attenuation Rate in Groundwater (K) =	0.0001	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0000	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	5.930
Slope	-0.0001
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW201**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/19/07	14	2.66
10/12/07	32	3.46
1/11/08	39	3.67
4/15/08	27	3.31
4/3/24	8.2	2.10
4/23/25	12	2.44
11/12/25	16.2	2.79
2/3/26	11	2.39



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	8
# of nondetects	0
% of data as detects	100

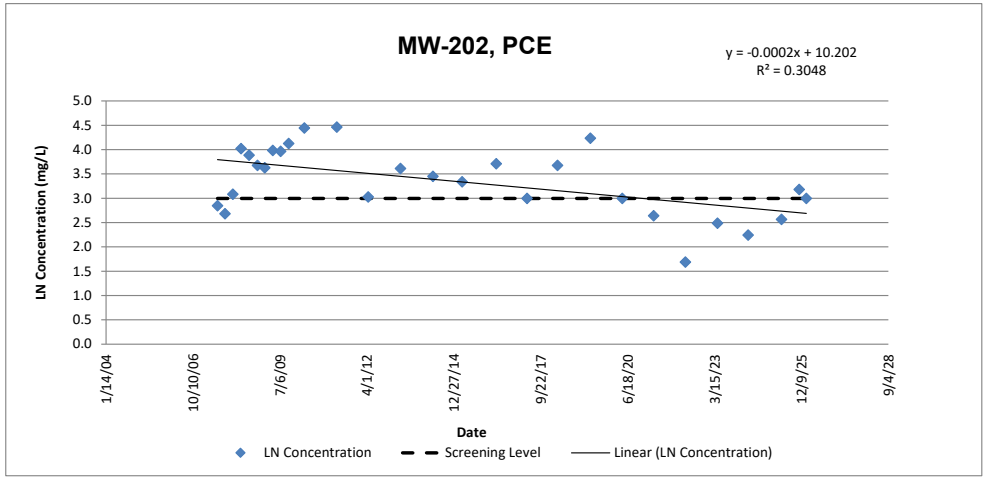
Results		
Coefficient of Determination (R^2) =	0.6048	
p-Value =	2.31E-02	
Attenuation Rate in Groundwater (K) =	0.0001	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	5.40E+03	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	8.319
Slope	-0.0001
Date to Screening Level	3/28/1979

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-202**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/19/07	17	2.84
10/12/07	15	2.68
1/11/08	22	3.08
4/15/08	56	4.02
7/15/08	49	3.88
10/21/08	39	3.67
1/13/09	38	3.62
4/15/09	54	3.98
7/14/09	53	3.96
10/14/09	62	4.12
4/12/10	85	4.44
4/22/11	87	4.46
4/17/12	21	3.03
4/23/13	37	3.61
5/1/14	31	3.45
4/2/15	28	3.34
4/29/16	41	3.71
4/17/17	20	3.00
4/4/18	39	3.67
4/16/19	69	4.23
4/17/20	20	3.00
4/14/21	14	2.64
4/13/22	5.4	1.69
4/18/23	12	2.48
4/3/24	9.4	2.24
4/23/25	13	2.56
11/12/25	24	3.18
2/3/26	20	3.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	0
% of data as detects	100

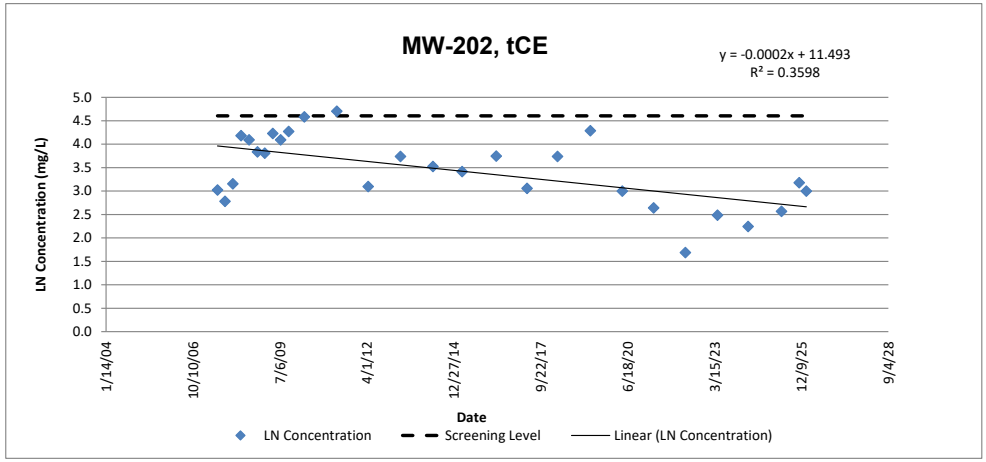
Results		
Coefficient of Determination (R^2) =	0.3048	
p-Value =	2.32E-03	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	4.25E+03	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	10.202
Slope	-0.0002
Date to Screening Level	12/7/2020

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-202**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/19/07	21	3.02
10/12/07	16	2.78
1/11/08	23	3.15
4/15/08	65	4.18
7/15/08	60	4.09
10/21/08	46	3.84
1/13/09	45	3.81
4/15/09	69	4.23
7/14/09	60	4.09
10/14/09	72	4.27
4/12/10	98	4.58
4/22/11	110	4.70
4/17/12	22	3.10
4/23/13	42	3.74
5/1/14	34	3.52
4/2/15	30	3.42
4/29/16	42	3.74
4/17/17	21	3.06
4/4/18	42	3.74
4/16/19	73	4.28
4/17/20	20	3.00
4/14/21	14	2.64
4/13/22	5.4	1.69
4/18/23	12	2.48
4/3/24	9.4	2.24
4/23/25	13	2.56
11/12/25	24	3.18
2/3/26	20	3.00



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	28
# of nondetects	0
% of data as detects	100

Results		
Coefficient of Determination (R^2) =	0.3598	
p-Value =	7.41E-04	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	3.61E+03	days

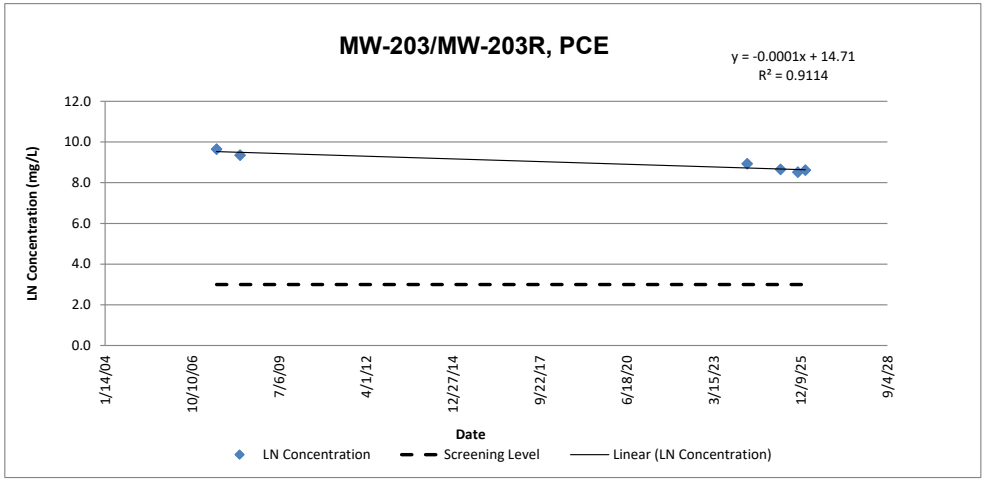
Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	11.493
Slope	-0.0002
Date to Screening Level	5/16/1998

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-203/MW-203R**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/19/07	15500	9.65
4/15/08	11500	9.35
4/4/24	7500	8.92
4/23/25	5700	8.65
11/10/25	5000	8.52
2/3/26	5500	8.61

MW-203R data starts 4/4/24
sceened 7' deeper
loc. 7' S-SW of MW-203



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	6
# of nondetects	0
% of data as detects	100

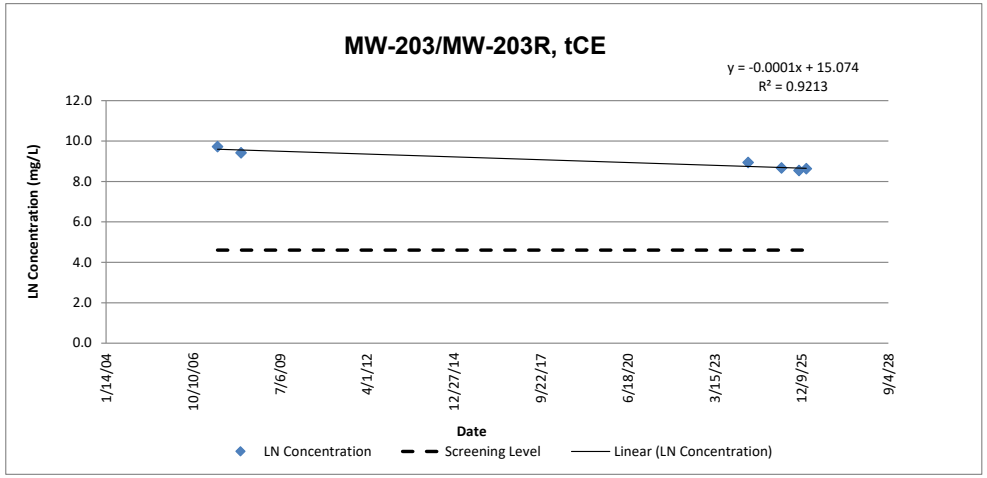
Results		
Coefficient of Determination (R^2) =	0.9114	
p-Value =	3.03E-03	
Attenuation Rate in Groundwater (K) =	0.0001	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	5.25E+03	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	14.710
Slope	-0.0001
Date to Screening Level	2/26/2143

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-203/MW-203R**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/19/07	16659	9.72
4/15/08	12234	9.41
4/4/24	7620	8.94
4/23/25	5810	8.67
11/10/25	5120	8.54
2/3/26	5587	8.63



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	6
# of nondetects	0
% of data as detects	100

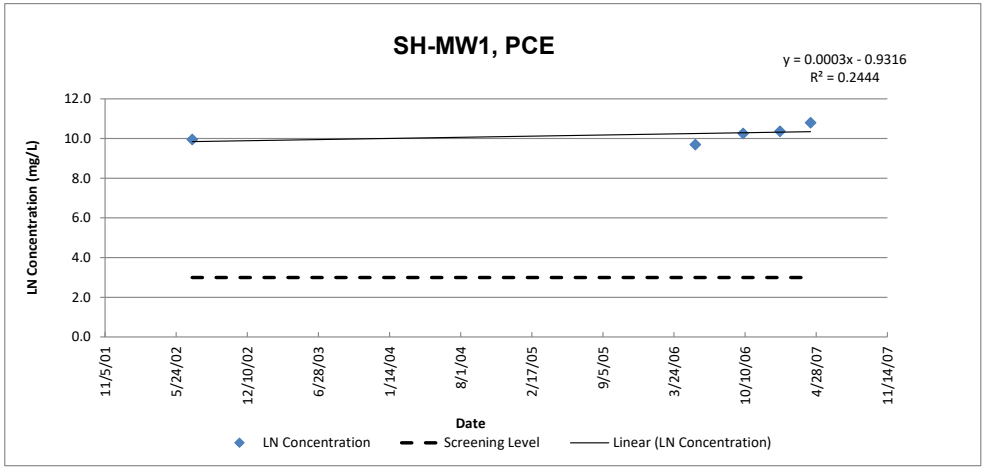
Results		
Coefficient of Determination (R^2) =	0.9213	
p-Value =	2.38E-03	
Attenuation Rate in Groundwater (K) =	0.0001	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	4.97E+03	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	15.074
Slope	-0.0001
Date to Screening Level	7/20/2105

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **SH-MW1**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/8/02	21000	9.95
5/23/06	16200	9.69
10/4/06	28300	10.25
1/16/07	31700	10.36
4/12/07	48900	10.80



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	5
# of nondetects	0
% of data as detects	100

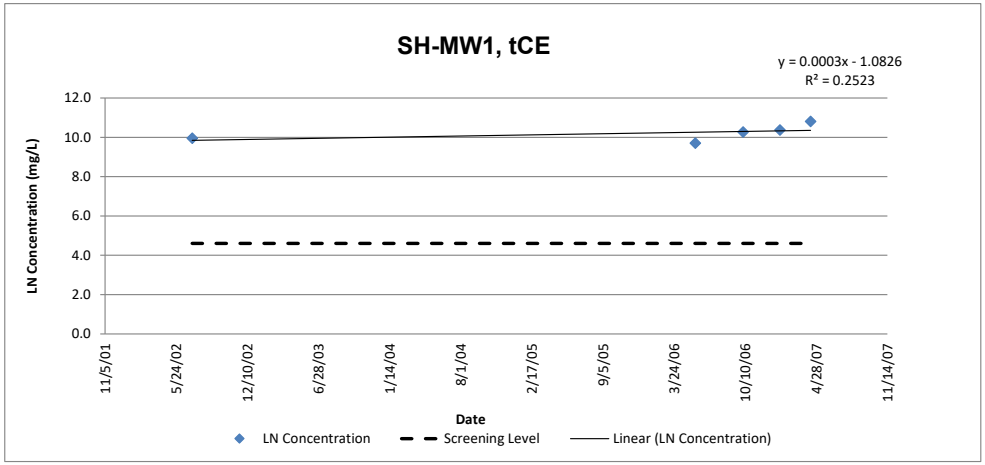
Results		
Coefficient of Determination (R^2) =	0.2444	
p-Value =	3.97E-01	
Attenuation Rate in Groundwater (K) =	-0.0003	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0008	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3
Intercept	-0.932
Slope	0.0003
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **SH-MW1**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/8/02	21000	9.95
5/23/06	16355	9.70
10/4/06	28644	10.26
1/16/07	31861	10.37
4/12/07	49086	10.80



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	5
# of nondetects	0
% of data as detects	100

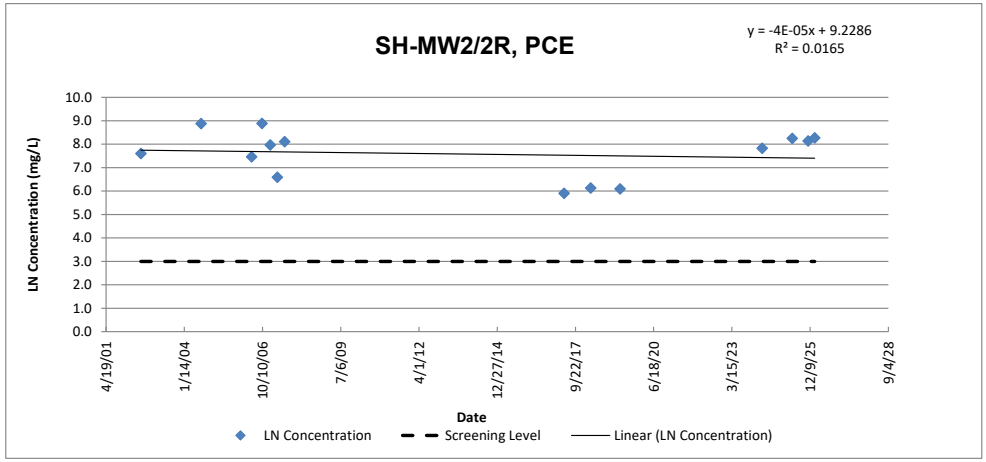
Results		
Coefficient of Determination (R^2) =	0.2523	
p-Value =	3.88E-01	
Attenuation Rate in Groundwater (K) =	-0.0003	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0008	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	-1.083
Slope	0.0003
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **SH-MW2/2R**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/8/02	2000	7.60
8/16/04	7170	8.88
5/23/06	1730	7.46
10/4/06	7190	8.88
1/16/07	2880	7.97
4/16/07	726	6.59
7/19/07	3320	8.11
4/28/17	365	5.90
4/4/18	459	6.13
4/16/19	439	6.08
4/3/24	2500	7.82
4/24/25	3800	8.24
11/12/25	3400	8.13
2/5/26	3900	8.27



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	14
# of nondetects	0
% of data as detects	100

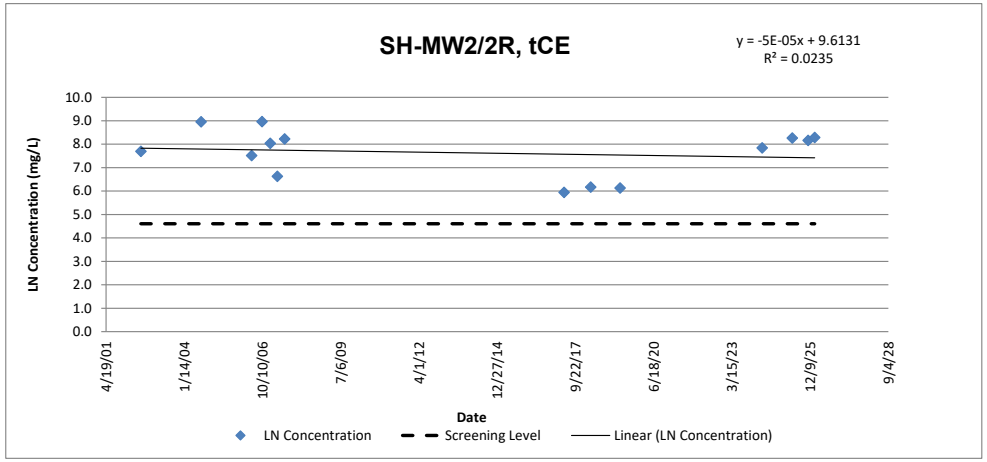
Results		
Coefficient of Determination (R^2) =	0.0165	
p-Value =	6.62E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3
Intercept	9.229
Slope	0.0000
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **SH-MW2/2R**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/8/02	2190	7.69
8/16/04	7742	8.95
5/23/06	1837	7.52
10/4/06	7767	8.96
1/16/07	3076	8.03
4/16/07	756	6.63
7/19/07	3724	8.22
4/28/17	381	5.94
4/4/18	476	6.17
4/16/19	459	6.13
4/3/24	2542	7.84
4/24/25	3856	8.26
11/12/25	3490	8.16
2/5/26	3953	8.28



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	14
# of nondetects	0
% of data as detects	100

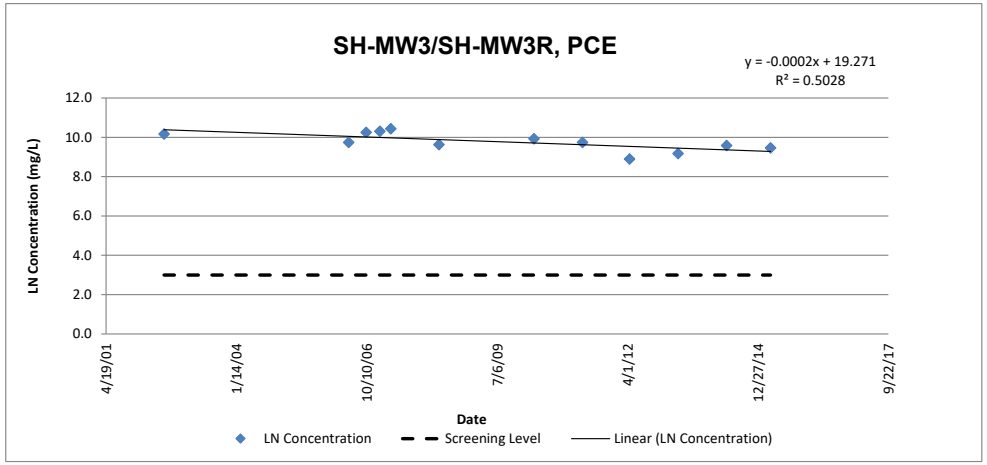
Results		
Coefficient of Determination (R^2) =	0.0235	
p-Value =	6.01E-01	
Attenuation Rate in Groundwater (K) =	0.0000	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	-0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	NA	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	9.613
Slope	0.0000
Date to Screening Level	NA

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **SH-MW3/SH-MW3R**
Constituent PCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/8/02	26000	10.17
5/23/06	16900	9.74
10/4/06	28300	10.25
1/17/07	29700	10.30
4/12/07	34000	10.43
4/15/08	15200	9.63
4/13/10	20300	9.92
4/21/11	16900	9.74
4/16/12	7310	8.90
4/23/13	9650	9.17
4/30/14	14500	9.58
4/2/15	12800	9.46



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	12
# of nondetects	0
% of data as detects	100

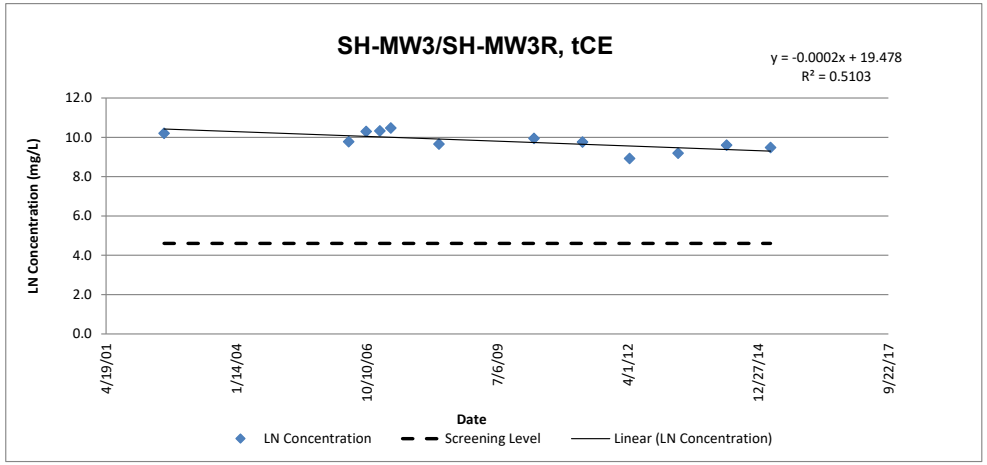
Results		
Coefficient of Determination (R^2) =	0.5028	
p-Value =	9.82E-03	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	2.92E+03	days

Date Screening Level Reached	
Screening Level	20
LN Screening Level	3.0
Intercept	19.271
Slope	-0.0002
Date to Screening Level	10/16/2087

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Sample Information
Sample Location **SH-MW3/SH-MW3R**
Constituent tCE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/8/02	26870	10.20
5/23/06	17510	9.77
10/4/06	29518	10.29
1/17/07	30409	10.32
4/12/07	35162	10.47
4/15/08	15541	9.65
4/13/10	20717	9.94
4/21/11	17242	9.76
4/16/12	7462	8.92
4/23/13	9807	9.19
4/30/14	14784	9.60
4/2/15	13046	9.48



Notes:
NDs assumed to be the current laboratory reporting limit
Duplicates were averaged
Data with qualifiers (e.g., estimated, or "J-qualified") are treated as detected results at full value

Data quality	
Total # of data points used in regression	12
# of nondetects	0
% of data as detects	100

Results		
Coefficient of Determination (R^2) =	0.5103	
p-Value =	9.05E-03	
Attenuation Rate in Groundwater (K) =	0.0002	$days^{-1}$
Attenuation Rate in Groundwater at 80% confidence (K) =	0.0001	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	2.87E+03	days

Date Screening Level Reached	
Screening Level	100
LN Screening Level	4.6
Intercept	19.478
Slope	-0.0002
Date to Screening Level	5/19/2068

Abbreviations and Notes
ug/L = milligrams per liter
LN = Natural Logarithm

Attachment 6 Geochemical Assessment

Attachment G-6 Monitored Natural Attenuation Parameter Data
Table 1. Summary of MNA Parameter Data
Phase II CSA Addendum- Degradation Evaluation
50 Tufts Street
Somerville, MA

Monitoring Well ID:		GEO-1	GEO-1	GEO-1	GEO-1	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2
Date:		4/13/2022	4/18/2023	4/2/2024	2/25/2026	1/17/07	4/13/10	4/21/11	5/1/13	4/30/14	4/2/15	4/29/16	4/18/17	4/4/18	4/16/2019	4/17/2020	4/14/2021	4/14/2022	4/18/2023	4/4/2024	4/23/2025	11/11/2025	2/3/2026
Location:		Source				Source																	
Field Parameters	**Units**					NA	NA	NA	NA	NA	NA	NA	NA										
Temp	deg. C	11.8	11.3	10.9	10.7									10.88	10.29	11.64	12.3	11.3	12.3	10.6	12	15.6	12.5
Sp. Cond	mS/cm	0.186	0.863	0.499	0.153									0.829	0.696	1.296	0.867	0.215	1.045	0.769	0.56	0.71	0.667
DO	mg/L	9.64	10.3	10.27	9.05									9.43	9.2	8.34	6.24	3.29	3.4	8.02	4.39	0.73	4.19
pH	S.U.	7.17	6.71	6.78	7.36									6.81	6.83	6.74	6.67	7.01	6.37	6.53	6.67	6.47	6.77
ORP	mV	118.4	177.7	263.9	121.6									184.1	130.3	119.4	155.7	94.3	171	217.1	163.5	-13.3	161.3
Turb	NTU	2.39	3.06	3.39	2.27									-2.7	0.1	-1.0	0.04	1.88	0.85	2.24	12.08	2.35	2.14
Metals (Total)	ug/L	NT	NT	NT	NT																		NT
Iron						< 100	< 100 J+	< 100	< 100	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Manganese						NT	< 15	< 15	< 15	< 15	< 15	< 15	<15	<15	<15	<10	<10	<10	<10	<10	<10	55.5	
Metals (Dissolved)	ug/L	NT	NT	NT	NT	NT	NT	NT	NT														NT
Iron, Ferrous										< 100	< 100	< 100	<100	<200	<200	<500	<500	<500	<500	<500	<500	<500	
Iron										NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Other		NT	NT	NT	NT																		NT
Methane	ug/L					< 10	1.58	< 0.30	< 0.30	< 10	< 10	< 10	<10	<0.11	0.14	<1.0	<2.00	<2.00	<2.00	<3.00	<5.0	<2.6	
Ethane	ug/L					< 10	< 0.10	< 0.10	< 0.10	< 10	< 10	< 10	<10	<0.23	<0.23	<0.5	<0.500	<0.500	<0.500	<3.00	<3.0	<5.2	
Ethylene	ug/L					< 10	< 0.10	< 0.10	< 0.10	< 10	< 10	< 10	<10	<0.31	<0.31	<0.5	<0.500	<0.500	<0.500	<3.00	<3.0	<6.5	
Alkalinity	ug/L					104000	44100	50400	64600	69000	48400	50300	34000	32800	221000	28500	28,300	43400	27000	32300	40500	31600	
Chloride	ug/L					1310000	165000	53700	252000	175000	220000	290000	287000	254000	198000	420000	270,000	38000	270000	200000	130000	200000	
Nitrate & Nitrite as N	ug/L					7000	6700	4400	3300	1700	1600	1500	1700	2300	1700	630	1,400	770	3000	5300	7600	5600	
Nitrogen, Nitrate	ug/L					7000	6700	4400	3300	1700	1600	1500	1700	2300	1700	629	1,320	755	3050	5290	6950	5630	
Nitrogen, Nitrite	ug/L					< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	NT	NT	NT	NT	NT	NT	NT	
Sodium	ug/L					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Sulfate	ug/L					88000	117000	105000	67800	38900	27500	30900	21600	19000	15900	<10000	<10,000	<10,000	12000	16000	20000	180000	
Sulfide	ug/L					< 2000	< 2000	< 2000	< 2000	< 2000	< 2000	< 2000	< 2000	<2000	<2000	<100	<100	<100	<100	<50	<2000	<2000	
Surfactants	ug/L					< 100	< 100	< 100	< 100	< 100	< 100	< 100	<100	<100	<100	<50	<50	<50	<50	<50	<50	<50	
Total Organic Carbon	ug/L					< 1000	2400	4600	1700	1000	<5000	< 1000	<1000	1000	<1000	<500	<500	570	<500	<500	790	1000	
qPCR		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dehalococcoides	cells/mL																						

General Notes:

1. In general, only analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. NA = Not available
3. NT = The sample was not tested for this analyte
4. NM = Not measured
5. mg/L = milligrams per liter
6. mL = milliliter
7. ug/L = micrograms per liter
8. S.U. = standard units
9. deg C = degrees Celsius
10. mV = millivolts
11. mS/cm =millisiemens per centimeter
12. NTU = nephelometric turbidity unit

Qualifying Notes:

J Estimated concentration (for qPCR, gene copies below practical quantitation limit [PQL] but above lower quantitation limit [LQL])

< Not detected above laboratory quantitation limit

Attachment G-6 Monitored Natural Attenuation Parameter Data
Table 1. Summary of MNA Parameter Data
Phase II CSA Addendum- Degradation Evaluation
50 Tufts Street
Somerville, MA

Monitoring Well ID:		GEO-4	GEO-4	GEO-4	GEO-4	GEO-5	GEO-5	GEO-5	GEO-6	Dup	GEO-6	GEO-6	GEO-6	GEO-6	MW102	MW102	MW102	MW103	MW103	MW103	MW103
Date:		4/4/2024	3/18/2025	11/12/2025	2/5/2026	4/3/2025	11/12/2025	2/5/2026	1/16/07	1/16/07	4/2/2024	3/19/2025	11/12/2025	2/3/2026	4/3/2024	11/11/2025	2/3/2026	1/18/07	4/3/2024	11/11/2025	2/3/2026
Location:		Core				Core			Core						Core			Core			
Field Parameters	**Units**								NA									NA			
Temp	deg. C	12.2	13.1	16.7	12.0	11.8	17.1	12.8			12.8	13.4	15.6	13.4	10.9	16.0	11.5		11.5	17.1	12.1
Sp. Cond	mS/cm	4.102	3.629	3.088	3.631	5.959	3.623	5.046			2.216	2.647	2.556	2.839	0.776	0.824	1.350		1.612	3.57	5.185
DO	mg/L	7.53	7.31	5.35	8.85	7.33	6.73	3.80			2.2	2.47	0.81	0.62	7.69	2.72	1.71		1.16	0.21	0.28
pH	S.U.	6.51	6.52	6.58	6.51	6.11	6.46	6.38			6.59	6.62	6.62	6.42	6.37	6.60	6.63		5.79	5.85	5.58
ORP	mV	222.6	182	99.4	173.1	276.6	185.8	172.9			414.9	177.9	131.9	183.2	229.7	42.8	91.7		212.8	90.6	118.2
Turb	NTU	3.02	8.7	8.79	4.31	2.08	2.47	4.52			1.95	19.98	5.12	1.7	7.37	4.31	6.41		6.68	17.49	3.81
Metals (Total)	ug/L	NT	NT	NT	NT	NT	NT	NT			NT	NT	NT	NT	NT	NT	NT		NT	NT	NT
Iron									< 100	< 100								< 100			
Manganese									NT	NT								NT			
Metals (Dissolved)	ug/L	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron, Ferrous																					
Iron																					
Other		NT	NT	NT	NT	NT	NT	NT			NT	NT	NT	NT	NT	NT	NT		NT	NT	NT
Methane	ug/L								< 10	< 10								< 10			
Ethane	ug/L								< 10	< 10								< 10			
Ethylene	ug/L								< 10	< 10								< 10			
Alkalinity	ug/L								134000	133000								53500			
Chloride	ug/L								825000	825000								675000			
Nitrate & Nitrite as N	ug/L								3500	3500								8900			
Nitrogen, Nitrate	ug/L								3500	3500								8900			
Nitrogen, Nitrite	ug/L								< 10	< 10								16			
Sodium	ug/L								NT	NT								NT			
Sulfate	ug/L								45800	45500								65700			
Sulfide	ug/L								< 2000	< 2000								< 2000			
Surfactants	ug/L								< 100	< 100								< 100			
Total Organic Carbon	ug/L								< 1000	< 1000								1700			
qPCR		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dehalococcoides	cells/mL																				

General Notes:

1. In general, only analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. NA = Not available
3. NT = The sample was not tested for this analyte
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8. S.U. = standard units
9. deg C = degrees Celsius
10. mV = millivolts
11. mS/cm =millisiemens per centimeter
12. NTU = nephelometric turbidity unit

Qualifying Notes:

J Estimated concentration (for qPCR, gene copies below practical quantitation limit [PQL] but above lower quantitation limit [LQL])

< Not detected above laboratory quantitation limit

Attachment G-6 Monitored Natural Attenuation Parameter Data
Table 1. Summary of MNA Parameter Data
Phase II CSA Addendum- Degradation Evaluation
50 Tufts Street
Somerville, MA

Monitoring Well ID:		MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104R	MW104R	MW104R	MW104R	MW104R	MW104R	MW106	MW106	MW106	MW107	MW107	MW107	MW107
Date:		4/12/10	4/21/11	4/17/12	4/24/13	4/30/14	4/2/15	4/29/16	4/17/17	4/4/18	4/4/2024	1/20/2025	4/23/2025	11/10/2025	2/3/2026	2/26/2026	1/18/07	11/12/2025	2/3/2026	1/18/07	4/2/2024	11/12/2025	2/5/2026
Location:		Core									Core						Perimeter			Perimeter			
Field Parameters	**Units**	NA	NA	NA	NA	NA	NA	NA	NA								NA			NA			
Temp	deg. C									8.37	9.4	11.7	15.1	11.6	11.6	11.0		15.2	13.4		9.6	14.0	8.4
Sp. Cond	mS/cm									1.225	1.143	2.06	1.658	2.888	2.888	3.96		3.897	4.475		0.319	0.444	0.415
DO	mg/L									1.14	4.01	5.47	1.9	4.44	4.44	5.14		2.29	5.06		2.58	2.00	2.14
pH	S.U.									6.54	6.70	6.62	6.56	6.73	6.73	6.89		6.38	6.59		6.48	6.95	6.58
ORP	mV									3.7	434.1	151.4	192.7	138.7	138.7	209.5		91.3	131.0		-4.5	20.2	27.4
Turb	NTU									-1.7	8.85	5.35	1.83	1.76	1.76	1.66		6.46	7.13		19.75	30.17	70.13
Metals (Total)	ug/L											NT			NT	NT		NT	NT		NT	NT	NT
Iron		2900 J+	11800	10700	15300	8970	NT	NT	NT	NT	NT		NT	NT			319			6160			
Manganese		1510	3000	2590	2860	1570	154	2440	1150	1950	10.1		<10	<10			NT			NT			
Metals (Dissolved)	ug/L	NT	NT	NT	NT						NT	NT			NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron, Ferrous						4800	<100	4600	1200	2400			<500	<500									
Iron						9890	NT	NT	NT	NT			NT	NT									
Other												NT			NT	NT		NT	NT		NT	NT	NT
Methane	ug/L	159	184	724	252	185	<10	20.2	29.9	54.8	<3.00		5.02	<2.6			< 10			4.13 J			
Ethane	ug/L	1.77	2.0	5.4	3.6	3.2 J	<10	< 10	<10	2	<3.00		<3.00	<5.2			< 10			< 10			
Ethylene	ug/L	0.87	1.1	11.6	4.92	3.8 J	<10	2.3 J	<10	1.6	<3.00		<3.00	<6.5			< 10			< 10			
Alkalinity	ug/L	338000	373000	464000	413000	393000	298000	319000	429000	336000	138000		164000	150000			83100			174000			
Chloride	ug/L	32500	189000	100000	247000	82500	74500	125000	33700	145000	240000		360000	350000			1870000			100000			
Nitrate & Nitrite as N	ug/L	120	320	200	280	150	390	< 110	<110	2600	1800		2900	2800			12900			100			
Nitrogen, Nitrate	ug/L	120	320	200	280	150	390	< 100	<100	2600	1800		2750	2810			12800			< 110			
Nitrogen, Nitrite	ug/L	< 10	< 10	< 10	< 10	< 10	<10	< 10	<10	<10	NT		NT	NT			83			< 10			
Sodium	ug/L	NT	NT	NT	NT	46400	NT	NT	NT	NT	NT		NT	NT			NT			NT			
Sulfate	ug/L	41700	45300	29300	52400	104000	62800	232000	113000	139000	120000		84000	19000			86800			33400			
Sulfide	ug/L	< 2000	< 2000	< 2000	< 2000	< 2000	< 2000	< 2000	< 2000	<2000	<50		<2000	<2000			< 2000			< 2000			
Surfactants	ug/L	< 100	120	190	< 100	< 100	<100	110	<100	130	<50		<50	<50			< 100			150			
Total Organic Carbon	ug/L	5900	7400	9800	8500	7500	7000	8600	6600	8200	630		<500	<500			1300			12200			
qPCR		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT
Dehalococcoides	cells/mL															0.170 J							

General Notes:

1. In general, only analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. NA = Not available
3. NT = The sample was not tested for this analyte
4. NM = Not measured
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10. mV = millivolts
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Qualifying Notes:

J Estimated concentration (for qPCR, gene copies below practical quantitation limit [PQL] but above lower quantitation limit [LQL])

< Not detected above laboratory quantitation limit

Attachment G-6 Monitored Natural Attenuation Parameter Data
Table 1. Summary of MNA Parameter Data
Phase II CSA Addendum- Degradation Evaluation
50 Tufts Street
Somerville, MA

Monitoring Well ID:		MW108	MW108	MW108	MW108	MW109	MW110	MW110	MW110	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A
Date:		1/18/07	4/2/2025	11/12/2025	2/4/2026	4/3/2024	1/18/2007	4/17/2007	5/23/2007	4/12/10	4/20/11	4/16/12	4/24/13	6/11/14	4/17/15	4/28/16	4/18/17	4/4/2018	4/15/2019	4/16/2020	4/13/2021	4/14/2022	4/18/2023	4/2/2024
Location:		Perimeter				Core	Core			Core														
Field Parameters	**Units**	NA					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
Temp	deg. C		9.4	15.8	8.1	9.2												10.61	10.29	11.26	14.74	11.4	12.4	12.5
Sp. Cond	mS/cm		1.819	8.163	4.859	3.009												6.098	0.696	1.901	1.980	1.839	0.712	2.094
DO	mg/L		1.11	0.57	0.44	8.56												0.38	9.20	0.23	0.88	0.91	2.05	0.36
pH	S.U.		6.16	5.96	6.01	6.41												6.78	6.83	6.90	6.96	6.84	6.82	6.8
ORP	mV		101	100.4	30.7	225.2												225.3	130.3	112.9	28.8	169.4	156.5	-28.7
Turb	NTU		6.74	7.65	7.16	16.03												-0.7	0.1	1.7	-13.3	2.5	43.16	4.43
Metals (Total)	ug/L		NT	NT	NT	NT		NT	NT														NT	
Iron		< 100					84000			< 0.10 J+	NT	< 100	14200	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT
Manganese		NT					NT			875	1570	954	1610	1470	909	1530	627	2620	3360	2600	2550	635		2020
Metals (Dissolved)	ug/L	NT	NT	NT	NT	NT		NT		NT	NT	NT	NT										NT	
Iron, Ferrous							NT		NT					< 100	< 100	< 100	<100	<200	<200	<500	<500	<500		<500
Iron														NT	NT	NT	NT	NT	NT	NT	NT	NT		NT
Other			NT	NT	NT	NT		NT														NT	NT	
Methane	ug/L	0.18 J					< 10		NT	0.18 J B	< 0.30	0.66	0.10 J	< 10	< 10	< 10	<10	320	6.7	17.6	5.88	2.11		4.64
Ethane	ug/L	< 10					< 10		NT	< 0.10	< 0.10	< 0.10	< 0.10	< 10	< 10	< 10	<10	12.2	<0.23	<0.500	<0.500	<0.500		<3
Ethylene	ug/L	< 10					< 10		NT	< 0.10	< 0.10	< 0.10	< 0.10	< 10	< 10	< 10	<10	<0.31	<0.31	<0.500	<0.500	<0.500		3.91
Alkalinity	ug/L	71100					122000		NT	233000	252000	245000	278000	285000	266000	332000	339000	247000	259000	248000	234000	265000		245000
Chloride	ug/L	235000					142000		1010000	810000	915000	655000	857000	815000	700000	700000	439000	170000	517000	440000	540000	410000		640000
Nitrate & Nitrite as N	ug/L	< 100					2400		NT	4700	3500	2600	1300	650	1200	490	620	<100	490	330	240	<380		210
Nitrogen, Nitrate	ug/L	< 110					2300		NT	4700	3500	2600	1300	650	1200	490	620	<110	480	334	217	<371		207
Nitrogen, Nitrite	ug/L	< 10					54		NT	11	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	NT	NT	NT		NT
Sodium	ug/L	NT					NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT
Sulfate	ug/L	28100					47700		NT	57100	52200	66100	68000	90900	63100	117000	71000	59200	551000	50000	50000	60000		78000
Sulfide	ug/L	< 2000					< 2000		NT	< 2000	< 2000	< 2000	< 2000	< 2000	< 2000	< 2000	< 2000	<2000	<2000	<100	<100	<100		<50
Surfactants	ug/L	< 100					< 100		NT	< 100	< 100	< 100	< 100	< 100	< 100	< 100	<100	<100	<100	<50	<50	<50		<50
Total Organic Carbon	ug/L	1300					5700		NT	1200	1100	< 1000	1500	< 1000	< 5000	< 1000	<1000	1700	<1000	750	700	750		<500
qPCR		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dehalococcoides	cells/mL																							

General Notes:

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Qualifying Notes:

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< Not detected above laboratory quantitation limit

Attachment G-6 Monitored Natural Attenuation Parameter Data
Table 1. Summary of MNA Parameter Data
Phase II CSA Addendum- Degradation Evaluation
50 Tufts Street
Somerville, MA

Monitoring Well ID:		MW112A	MW112A	MW112A	MW112A	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S
Date:		4/25/2025	11/13/2025	2/3/2026	2/26/2026	4/13/2022	4/18/2023	4/3/2024	4/24/2025	11/11/2025	2/3/2026	2/26/2026	4/12/2022	4/17/2023	4/2/2024	4/22/2025	11/10/2025	2/2/2026	4/12/2022	4/17/2023	4/2/2024	4/22/2025	11/10/2025	2/2/2026
Location:		Core (cont.)				Plume (bedrock)							Perimeter (bedrock)						Perimeter					
Field Parameters	**Units**																							
Temp	deg. C	12.8	16.1	12.1	11.9	12.5	12.1	10.5	11.7	15.7	9.4	9.0	17.5	12.1	11.7	12.4	13.3	11.2	13.4	10.3	8.9	8.7	15.8	8.6
Sp. Cond	mS/cm	2.211	1.662	2.148	2.286	8.123	10.545	2.829	9.073	2.401	6.036	13.83	3.41	1.863	1.239	1.541	1.159	1.021	2.48	1.587	0.817	0.505	0.481	0.337
DO	mg/L	0.55	0.21	0.72	0.77	0.81	1.19	2.36	1.28	2.61	2.47	2.17	0.65	3.42	5	2.7	0.88	0.33	0.53	0.95	0.43	0.54	0.17	0.41
pH	S.U.	6.69	6.98	6.77	6.94	7.04	6.91	7	7	7.24	7.04	6.92	6.58	7.42	8.55	6.8	7.82	7.18	6.19	6.14	6.17	5.98	6.45	6.54
ORP	mV	2.9	-128.8	-17.0	18.1	-87.9	-34.8	178.1	80.0	20.2	-8.3	-21.0	-22.4	-32.9	197.1	203.8	-75.8	-91.2	40.9	76.3	56.8	-17.9	-21.0	-4.8
Turb	NTU	4.83	6.02	2.33	9.83	1.3	3.65	4.61	34.02	3.70	3.08	2.47	26.8	106.04	12.94	40.24	119.81	19.27	9.01	4.74	7.97	12.09	7.76	8.47
Metals (Total)	ug/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron		NT	NT																					
Manganese		1480	2260																					
Metals (Dissolved)	ug/L			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron, Ferrous		<500	<500																					
Iron		NT	NT																					
Other				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	ug/L	5.31	13																					
Ethane	ug/L	<3.0	<5.2																					
Ethylene	ug/L	<3.0	<6.5																					
Alkalinity	ug/L	246000	235000																					
Chloride	ug/L	490000	440000																					
Nitrate & Nitrite as N	ug/L	360	300																					
Nitrogen, Nitrate	ug/L	307	296																					
Nitrogen, Nitrite	ug/L	NT	NT																					
Sodium	ug/L	NT	NT																					
Sulfate	ug/L	71000	62000																					
Sulfide	ug/L	<2000	NT																					
Surfactants	ug/L	<50	<50																					
Total Organic Carbon	ug/L	<500	<500																					
qPCR		NT	NT	NT		NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dehalococcoides	cells/mL				1,800							330												

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Attachment G-6 Monitored Natural Attenuation Parameter Data
Table 1. Summary of MNA Parameter Data
Phase II CSA Addendum- Degradation Evaluation
50 Tufts Street
Somerville, MA

Monitoring Well ID:		MW117T	MW117T	MW117T	MW117T	MW117T	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118T	MW118T	MW118T	MW118T	MW118T	MW118D	MW118D	MW118D	MW118D	MW118D
Date:		4/12/2022	4/17/2023	4/22/2025	11/10/2025	2/2/2026	4/12/2022	4/17/2023	4/2/2024	4/22/2025	11/10/2025	2/2/2026	4/12/2022	4/17/2023	4/22/2025	11/10/2025	2/2/2026	4/12/2022	4/17/2023	4/2/2024	4/22/2025	2/2/2026
Location:		Perimeter					Perimeter						Perimeter					Perimeter (bedrock)				
Field Parameters	**Units**																					
Temp	deg. C	12.3	12.3	12.2	13.5	11.3	10.1	10.1	9.7	10.6	14	9.3	12.6	12.9	12.9	13.5	12.4	13.5	12.6	12.5	13.3	12.5
Sp. Cond	mS/cm	0.874	0.705	0.268	0.251	0.244	2.647	3.101	0.64	3.487	2.835	2.866	0.818	1.43	1.241	1.248	1.24	1.056	1.216	1.123	0.99	1.104
DO	mg/L	0.66	0.96	1.39	2.42	0.43	0.5	0.6	0.64	0.56	0.66	0.39	4.27	0.54	0.64	0.17	0.18	1.2	1.27	0.52	0.13	0.1
pH	S.U.	6.62	6.54	6.21	7.15	6.23	6.74	6.74	6.75	6.07	6.77	6.64	7.63	7.14	6.81	7.42	7.34	7.18	7.04	7.26	7.35	7.18
ORP	mV	4.8	-4.8	43.3	-54.6	-41.2	-24	-367.2	-41.3	-18.2	-95.6	-28	108.3	181	-103.2	-157.6	-113.4	81.6	132.2	-99.9	-300.7	-146.3
Turb	NTU	6.99	2.34	10.57	6.57	12.09	22.8	4.32	6.36	6.69	97.02	9.91	1.97	12.68	5.07	16.78	3.97	4.42	40.13	9.88	347.43	17.05
Metals (Total)	ug/L	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																						
Manganese																						
Metals (Dissolved)	ug/L	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron, Ferrous																						
Iron																						
Other		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	ug/L																					
Ethane	ug/L																					
Ethylene	ug/L																					
Alkalinity	ug/L																					
Chloride	ug/L																					
Nitrate & Nitrite as N	ug/L																					
Nitrogen, Nitrate	ug/L																					
Nitrogen, Nitrite	ug/L																					
Sodium	ug/L																					
Sulfate	ug/L																					
Sulfide	ug/L																					
Surfactants	ug/L																					
Total Organic Carbon	ug/L																					
qPCR		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dehalococcoides	cells/mL																					

General Notes:

1. In general, only analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. NA = Not available
3. NT = The sample was not tested for this analyte
4. NM = Not measured
5. mg/L = milligrams per liter
6. mL = milliliter
7. ug/L = micrograms per liter
8. S.U. = standard units
9. deg C = degrees Celsius
10. mV = millivolts
11. mS/cm =millisiemens per centimeter
12. NTU = nephelometric turbidity unit

Qualifying Notes:

J Estimated concentration (for qPCR, gene copies below practical quantitation limit [PQL] but above lower quantitation limit [LQL])

< Not detected above laboratory quantitation limit

Attachment G-6 Monitored Natural Attenuation Parameter Data
Table 1. Summary of MNA Parameter Data
Phase II CSA Addendum- Degradation Evaluation
50 Tufts Street
Somerville, MA

Monitoring Well ID:		MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D
Date:		4/13/2022	4/17/2023	4/2/2024	4/22/2025	11/11/2025	2/4/2026	4/13/2022	4/17/2023	4/2/2024	4/22/2025	11/11/2025	2/4/2026	4/13/2022	4/18/2023	4/3/2024	4/22/2025	11/11/2025	2/4/2026	4/13/2022	4/18/2023	4/3/2024	4/22/2025	11/11/2025	2/4/2026
Location:		Perimeter						Perimeter						Perimeter						Perimeter (bedrock)					
Field Parameters	**Units**																								
Temp	deg. C	9.8	11.5	10	12.3	13.7	10.6	12.7	12.9	13	13	12.3	12.9	10.5	11.2	10.2	10.6	13.9	9	12.7	12.7	10.9	13.1	12.9	11.2
Sp. Cond	mS/cm	1.441	1.371	0.672	2.307	1.246	1.683	0.963	1.371	0.939	1.096	0.7	1.247	1.38	1.217	4.884	1.08	2.486	1.464	1.007	1.119	1.09	1.405	1.134	1.112
DO	mg/L	0.58	0.68	4.07	1.83	0.57	0.58	8.28	0.35	3.85	3.71	6.33	0.03	0.51	0.59	5.71	0.52	0.41	0.49	4.97	6.26	6.73	8.02	1.09	6.36
pH	S.U.	6.74	6.94	6.81	6.98	7.02	6.93	9.35	7.18	7.99	8.34	10.9	7.22	6.59	6.66	6.79	6.96	6.83	7.06	8.83	8.55	8.66	8.85	11.9	9.93
ORP	mV	67.8	154.7	235.6	203.2	-4.9	123.8	109.7	108.4	124.2	193.1	125.5	95.3	-53.6	-63.9	50.9	180.4	-157.7	-156.6	12	96.6	320.1	176.2	-131.2	160.5
Turb	NTU	2.5	8.66	3.45	11.15	7.02	8.46	1.79	5.08	1.63	1.81	5.44	4.89	21.4	7.24	16.97	22.9	13.52	5.1	1.35	6.55	3.95	2.13	13.38	4.01
Metals (Total)	ug/L	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																									
Manganese																									
Metals (Dissolved)	ug/L	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron, Ferrous																									
Iron																									
Other		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	ug/L																								
Ethane	ug/L																								
Ethylene	ug/L																								
Alkalinity	ug/L																								
Chloride	ug/L																								
Nitrate & Nitrite as N	ug/L																								
Nitrogen, Nitrate	ug/L																								
Nitrogen, Nitrite	ug/L																								
Sodium	ug/L																								
Sulfate	ug/L																								
Sulfide	ug/L																								
Surfactants	ug/L																								
Total Organic Carbon	ug/L																								
qPCR		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dehalococcoides	cells/mL																								

General Notes:

1. In general, only analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. NA = Not available
3. NT = The sample was not tested for this analyte
4. NM = Not measured
5. mg/L = milligrams per liter
6. mL = milliliter
7. ug/L = micrograms per liter
8. S.U. = standard units
9. deg C = degrees Celsius
10. mV = millivolts
11. mS/cm =millisiemens per centimeter
12. NTU = nephelometric turbidity unit

Qualifying Notes:

J Estimated concentration (for qPCR, gene copies below practical quantitation limit [PQL] but above lower quantitation limit [LQL])

< Not detected above laboratory quantitation limit

Attachment G-6 Monitored Natural Attenuation Parameter Data
Table 1. Summary of MNA Parameter Data
Phase II CSA Addendum- Degradation Evaluation
50 Tufts Street
Somerville, MA

Monitoring Well ID:		MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122
Date:		4/13/2022	4/18/2023	4/3/2024	4/23/2025	11/11/2025	2/3/2026	4/13/2022	4/18/2023	4/3/2024	4/23/2025	11/11/2025	2/3/2026	4/13/2022	4/17/2023	11/7/2023	4/4/2024	11/14/2024	4/24/2025	11/12/2025	1/7/2026	2/4/2026	2/26/2026
Location:		Perimeter						Perimeter (bedrock)						Core									
Field Parameters	**Units**																						
Temp	deg. C	16.4	12.9	11.4	13.2	15.6	11.8	16.2	13.9	12.9	14.1	14.1	12.5	17.1	12.4	17.59	7.6	15	NM	17.2	13.4	12.5	11.5
Sp. Cond	mS/cm	0.57	0.55	0.779	0.607	0.469	0.708	1.34	2.618	0.265	0.667	0.476	1.836	1.528	1.307	1.422	1.152	1.402	NM	1.842	1.701	1.542	3.22
DO	mg/L	0.57	0.88	0.54	0.56	0.15	0.28	0.47	0.41	0.43	0.81	1.91	0.14	5.46	5.76	1.32	10.24	3.46	NM	0.4	1.81	0.81	0.62
pH	S.U.	7.4	7.16	6.97	6.89	7.53	7.38	7.45	7.41	6.3	6.57	7.18	7.06	7.15	6.94	7.36	7.15	7.08	NM	6.71	6.67	6.56	6.75
ORP	mV	-9	-271.5	-116.9	-43	-191.5	-78.6	-148.6	157.6	-35.4	-161.2	-92	-86.9	157.8	78.3	52.2	234.3	235.5	NM	79.5	129.4	68.9	87.7
Turb	NTU	16.4	13	10.41	17.43	30.6	19.36	11.11	5.03	5.62	5.46	23.38	8.59	19.86	79.61	20.5	14.05	86.04	NM	12.38	20.53	6.57	4.04
Metals (Total)	ug/L	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																							
Manganese																							
Metals (Dissolved)	ug/L	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron, Ferrous																							
Iron																							
Other		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	ug/L																						
Ethane	ug/L																						
Ethylene	ug/L																						
Alkalinity	ug/L																						
Chloride	ug/L																						
Nitrate & Nitrite as N	ug/L																						
Nitrogen, Nitrate	ug/L																						
Nitrogen, Nitrite	ug/L																						
Sodium	ug/L																						
Sulfate	ug/L																						
Sulfide	ug/L																						
Surfactants	ug/L																						
Total Organic Carbon	ug/L																						
qPCR		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Dehalococcoides	cells/mL																						330

General Notes:

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2. NA = Not available
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5. mg/L = milligrams per liter
6. mL = milliliter
7. ug/L = micrograms per liter
8. S.U. = standard units
9. deg C = degrees Celsius
10. mV = millivolts
11. mS/cm =millisiemens per centimeter
12. NTU = nephelometric turbidity unit

Qualifying Notes:

J Estimated concentration (for qPCR, gene copies below practical quantitation limit [PQL] but above lower quantitation limit [LQL])

< Not detected above laboratory quantitation limit

Attachment G-6 Monitored Natural Attenuation Parameter Data
Table 1. Summary of MNA Parameter Data
Phase II CSA Addendum- Degradation Evaluation
50 Tufts Street
Somerville, MA

Monitoring Well ID:		MW201	MW201	MW201	MW201	MW202	MW202	MW202	MW202	MW202	MW202	MW203R	MW203R	MW203R	MW203R	SH-MW2	SHMW2	SHMW2	SHMW2	SHMW2	SH-MW3
Date:		4/3/2024	4/23/2025	11/12/2025	2/3/2026	4/13/2022	4/18/2023	4/3/2024	4/23/1935	11/12/2025	2/3/2026	4/4/2024	11/10/2025	2/3/2026	2/26/2026	4/16/19	4/3/2024	4/24/2025	11/12/2025	2/5/2026	1/17/07
Location:		Core				Core						Core				Source					Source
Field Parameters	**Units**																				NA
Temp	deg. C	11.8	11.9	14.6	12.6	13.6	10.2	9.7	10.8	14.9	11.6	11.3	14.4	12.4	11.9	12.92	12	12.5	15.4	11.9	
Sp. Cond	mS/cm	1.542	1.618	1.679	1.861	11.38	3.996	2.82	0.694	0.268	2.374	0.807	0.864	0.755	0.723	0.529	1.02	0.989	0.918	0.922	
DO	mg/L	6.9	7.84	7.11	6.63	4.99	8	8.01	9.68	7.31	7.2	2.12	0.98	1.77	1.75	6.11	0.95	0.31	0.37	0.5	
pH	S.U.	6.6	6.61	6.68	6.62	6.11	6.28	6.62	7.17	7.43	6.64	6.44	6.59	6.44	6.59	6.50	6.93	7.24	7.25	7.09	
ORP	mV	184.9	192.6	160	196.8	144.2	209.1	224.7	182,8	140.4	206.2	426.3	145.3	149.2	175.9	135.8	147.3	146.8	109.8	70.4	
Turb	NTU	1.65	8.34	3.65	2.59	9.44	9.76	3.09	44.11	20.97	2.11	2.69	1.9	2.11	1.61	0.1	27.25	12.72	2.67	4.19	
Metals (Total)	ug/L	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	
Iron																NT					255
Manganese																<15					NT
Metals (Dissolved)	ug/L	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT
Iron, Ferrous																<200					
Iron																					
Other		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	
Methane	ug/L															0.21					< 10
Ethane	ug/L															<0.23					< 10
Ethylene	ug/L															<0.31					< 10
Alkalinity	ug/L															143000					208000
Chloride	ug/L															38600					362000
Nitrate & Nitrite as N	ug/L															2600					1900
Nitrogen, Nitrate	ug/L															2600					1900
Nitrogen, Nitrite	ug/L															<10					30
Sodium	ug/L															NT					NT
Sulfate	ug/L															62900					62600
Sulfide	ug/L															<2000					< 2000
Surfactants	ug/L															<100					< 100
Total Organic Carbon	ug/L															1900					< 1000
qPCR		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT
Dehalococcoides	cells/mL														1.00						

General Notes:

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8. S.U. = standard units
9. deg C = degrees Celsius
10. mV = millivolts
11. mS/cm =millisiemens per centimeter
12. NTU = nephelometric turbidity unit

Qualifying Notes:

J Estimated concentration (for qPCR, gene copies below practical quantitation limit [PQL] but above lower quantitation limit [LQL])

< Not detected above laboratory quantitation limit

Attachment 7 Microbial Population Testing

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ACCREDITED
CERTIFICATE #7157.01

SITE LOGIC Report

QuantArray®-Chlor Study

Contact:	Chris Coner	Phone:	781-721-4000
Address:	GEI Consultants, Inc. 100 Quannapowitt Parkway Suite 300 Wakefield, MA 01880	Email:	cconer@geiconsultants.com

MI Identifier: 081XB Report Date: 03/06/2026

Project: 50 Tufts Street

Reviewed By: *Sarah Keys*

Comments:

NOTICE: This report is intended only for the addressee shown above and contains project specific information. If you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed in the condition received and with the information provided. The report shall not be reproduced, unless in full, without approval from Microbial Insights, Inc.

The QuantArray®-Chlor Approach

Quantification *Dehalococcoides*, the only known bacterial group capable of complete reductive dechlorination of PCE and TCE to ethene, has become an indispensable component of assessment, remedy selection, and performance monitoring at sites impacted by chlorinated solvents. While undeniably a key group of halorespiring bacteria, *Dehalococcoides* are not the only bacteria of interest in the subsurface because reductive dechlorination is not the only potential biodegradation pathway operative at contaminated sites, and chlorinated ethenes are not always the primary contaminants of concern. The QuantArray®-Chlor not only includes a variety of halorespiring bacteria (*Dehalococcoides*, *Dehalobacter*, *Dehalogenimonas*, etc.) to assess the potential for reductive dechlorination of chloroethenes, chloroethanes, chlorobenzenes, chlorophenols, and chloroform, but also provides quantification of functional genes involved in aerobic (co)metabolic pathways for biodegradation of chlorinated solvents and even competing biological processes. Thus, the QuantArray®-Chlor will give site managers the ability to simultaneously yet economically evaluate the potential for biodegradation of a spectrum of common chlorinated contaminants through a multitude of anaerobic and aerobic (co)metabolic pathways to give a much more clear and comprehensive view of contaminant biodegradation.

The QuantArray®-Chlor is used to quantify specific microorganisms and functional genes to evaluate the following:

Anaerobic Reductive Dechlorination	Quantification of important halorespiring bacteria (e.g. *Dehalococcoides*, *Dehalobacter*, *Dehalogenimonas*, *Desulfitobacterium* spp.) and key functional genes (e.g. vinyl chloride reductases, TCE reductase, chloroform reductase) responsible for reductive dechlorination of a broad spectrum of chlorinated solvents.
Aerobic Cometabolism	Several different types of bacteria including methanotrophs and some toluene/phenol utilizing bacteria can co-oxidize TCE, DCE, and vinyl chloride. The QuantArray®-Chlor quantifies functional genes like soluble methane monooxygenase encoding enzymes capable of co-oxidation of chlorinated ethenes.
Aerobic (Co)metabolism of Vinyl Chloride	Ethene oxidizing bacteria are capable of cometabolism of vinyl chloride. In some cases, ethenotrophs can also utilize vinyl chloride as a growth supporting substrate. The QuantArray®-Chlor targets key functional genes in ethene metabolism.

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Results

Table 1: Summary of the QuantArray®-Chlor results obtained for samples 045163-MW116, 045163-MW104R, and 045163-MW122

Sample Name Sample Date	045163-MW116 02/26/2026	045163-MW104R 02/26/2026	045163-MW122 02/26/2026
Reductive Dechlorination	cells/mL	cells/mL	cells/mL
Dehalococcoides (DHC)	**3.30E+02**	**1.70E-01 (J)**	**3.30E+02**
tceA Reductase (TCE)	**3.10E+02**	<2.50E-01	**3.50E+01**
BAV1 Vinyl Chloride Reductase (BVC)	**2.80E+02**	<2.50E-01	**3.20E+02**
Vinyl Chloride Reductase (VCR)	**9.90E+01**	<2.50E-01	**1.10E+02**
Dehalobacter spp. (DHBt)	<2.50E-01	<2.50E-01	<2.50E-01
Dehalobacter DCM (DCM)	<2.50E-01	<2.50E-01	**3.20E+03**
Dehalogenimonas spp. (DHG)	**1.40E+04**	<2.50E-01	**1.40E+04**
cerA Reductase (CER)	<2.50E-01	<2.50E-01	<2.50E-01
trans-1,2-DCE Reductase (TDR)	<2.50E-01	<2.50E-01	**2.80E+03**
Desulfitobacterium spp. (DSB)	**1.00E+04**	**8.40E+02**	**2.40E+02**
Dehalobium chlorocoercia (DECO)	**2.10E+03**	**2.10E+03**	**6.10E+04**
Desulfuromonas spp. (DSM)	**3.90E+03**	**1.20E+02**	**1.60E+02**
PCE Reductase (PCE-1)	<2.50E-01	<2.50E-01	**4.50E+02**
PCE Reductase (PCE-2)	<2.50E-01	<2.50E-01	**4.30E+02**
Chloroform Reductase (CFR)	<2.50E-01	<2.50E-01	<2.50E-01
1,1 DCA Reductase (DCA)	<2.50E-01	<2.50E-01	<2.50E-01
1,2 DCA Reductase (DCAR)	<2.50E-01	<2.50E-01	<2.50E-01
Aerobic (Co)Metabolic			
Soluble Methane Monooxygenase (SMMO)	<2.50E-01	**1.20E+01**	**1.40E+03**
Toluene Dioxygenase (TOD)	**2.90E+01**	<2.50E-01	<2.50E-01
Phenol Hydroxylase (PHE)	**2.30E+02**	<2.50E-01	**7.80E+04**
Trichlorobenzene Dioxygenase (TCBO)	<2.50E-01	<2.50E-01	**9.30E+02**
Toluene Monooxygenase 2 (RDEG)	**3.40E+02**	**1.10E+00**	**6.30E+04**
Toluene Monooxygenase (RMO)	<2.50E-01	<2.50E-01	**1.30E+04**
Ethene Monooxygenase (EtnC)	<2.50E-01	<2.50E-01	<2.50E-01
Epoxyalkane Transferase (EtnE)	<2.50E-01	<2.50E-01	**3.40E+01**
Dichloromethane Dehalogenase (DCMA)	<2.50E-01	<2.50E-01	<2.50E-01
Other			
Total Eubacteria (EBAC)	**9.00E+05**	**1.80E+05**	**1.01E+07**
Sulfate Reducing Bacteria (APS)	**3.70E+04**	**2.20E+03**	**1.40E+04**
Methanogens (MGN)	**1.00E+01**	**3.70E+00**	**5.60E+02**

Legend:

NA = Not Analyzed
NS = Not Sampled
J = Estimated Gene Copies Below PQL but Above LQL
I = Inhibited
< = Result Not Detected

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Table 2: Summary of the QuantArray®-Chlor results obtained for samples 045163-MW203R and 045163-MW112A

Sample Name Sample Date	045163-MW203R 02/26/2026	045163-MW112A 02/26/2026
Reductive Dechlorination	cells/mL	cells/mL
Dehalococcoides (DHC)	**1.00E+00**	**1.80E+03**
tceA Reductase (TCE)	<2.50E-01	**1.40E-01 (J)**
BAV1 Vinyl Chloride Reductase (BVC)	<2.50E-01	**3.60E+02**
Vinyl Chloride Reductase (VCR)	<2.50E-01	**4.20E+02**
Dehalobacter spp. (DHBt)	<2.50E-01	**1.90E+03**
Dehalobacter DCM (DCM)	<2.50E-01	<2.50E-01
Dehalogenimonas spp. (DHG)	**4.40E+01**	**2.80E+03**
cerA Reductase (CER)	<2.50E-01	<2.50E-01
trans-1,2-DCE Reductase (TDR)	<2.50E-01	**1.10E+03**
Desulfitobacterium spp. (DSB)	<2.50E-01	**1.60E+03**
Dehalobium chlorocoercia (DECO)	**3.40E+02**	**6.60E+02**
Desulfuromonas spp. (DSM)	<2.50E-01	**1.80E+02**
PCE Reductase (PCE-1)	<2.50E-01	<2.50E-01
PCE Reductase (PCE-2)	<2.50E-01	**4.30E+02**
Chloroform Reductase (CFR)	<2.50E-01	<2.50E-01
1,1 DCA Reductase (DCA)	<2.50E-01	<2.50E-01
1,2 DCA Reductase (DCAR)	<2.50E-01	<2.50E-01
Aerobic (Co)Metabolic		
Soluble Methane Monooxygenase (SMMO)	<2.50E-01	<2.50E-01
Toluene Dioxygenase (TOD)	<2.50E-01	<2.50E-01
Phenol Hydroxylase (PHE)	<2.50E-01	<2.50E-01
Trichlorobenzene Dioxygenase (TCBO)	<2.50E-01	<2.50E-01
Toluene Monooxygenase 2 (RDEG)	<2.50E-01	**3.10E+02**
Toluene Monooxygenase (RMO)	<2.50E-01	<2.50E-01
Ethene Monooxygenase (EtnC)	<2.50E-01	<2.50E-01
Epoxyalkane Transferase (EtnE)	<2.50E-01	<2.50E-01
Dichloromethane Dehalogenase (DCMA)	<2.50E-01	<2.50E-01
Other		
Total Eubacteria (EBAC)	**1.10E+05**	**4.50E+05**
Sulfate Reducing Bacteria (APS)	**1.50E+04**	**1.00E+05**
Methanogens (MGN)	**9.40E-01**	**1.90E+02**

Legend:
NA = Not Analyzed
I = Inhibited
NS = Not Sampled
< = Result Not Detected
J = Estimated Gene Copies Below PQL but Above LQL

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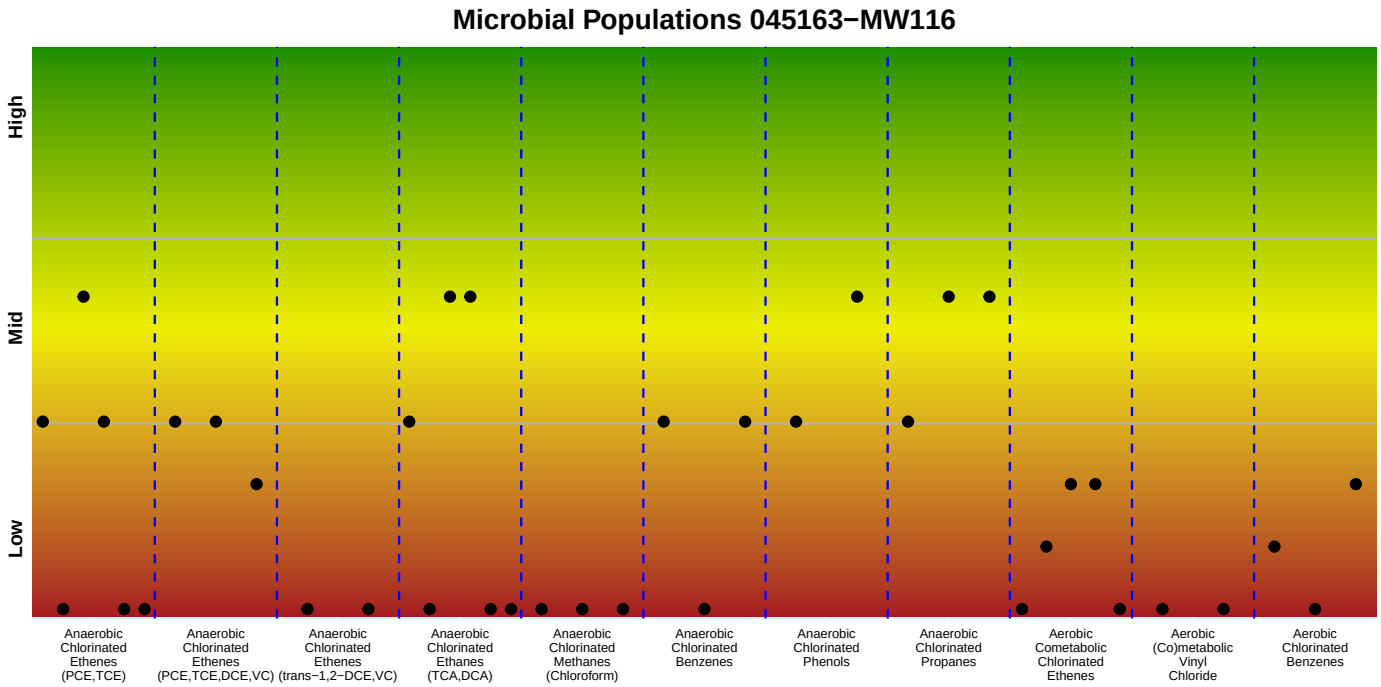

Figure 1: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants. See below to understand the correlation between contaminants and their associated qPCR assays.

Anaerobic - Reductive Dechlorination or Dichloroelimination	
Contaminants	**qPCR Assays**
Chlorinated Ethenes (PCE, TCE)	DHC, DHBt, DSB, DSM, PCE-1, PCE-2
Chlorinated Ethenes (PCE, TCE, DCE, VC)	DHC, BVC, VCR
Chlorinated Ethenes (trans-1,2-DCE, VC)	TDR, CER
Chlorinated Ethanes (TCA and 1,2- DCA)	DHC, DHBt, DHG, DSB[1], DCA, DCAR
Chlorinated Methanes (Chloroform)	DHBt, DCM, CFR
Chlorinated Benzenes	DHC, DHBt[2], DECO
Chlorinated Phenols	DHC, DSB
Chlorinated Propanes	DHC, DHG, DSB[1]
Aerobic - (Co)metabolism	
Chlorinated Ethenes (TCE,DCE,VC)	sMMO, TOD, PHE, RDEG, RMO
(Co)metabolic Vinyl Chloride	etnC, etnE
Chlorinated Benzenes	TOD, TCBO, PHE

[1] *Desulfitobacterium dichloroeliminans* DCA1. [2] Implicated in reductive dechlorination of dichlorobenzene and potentially chlorobenzene.

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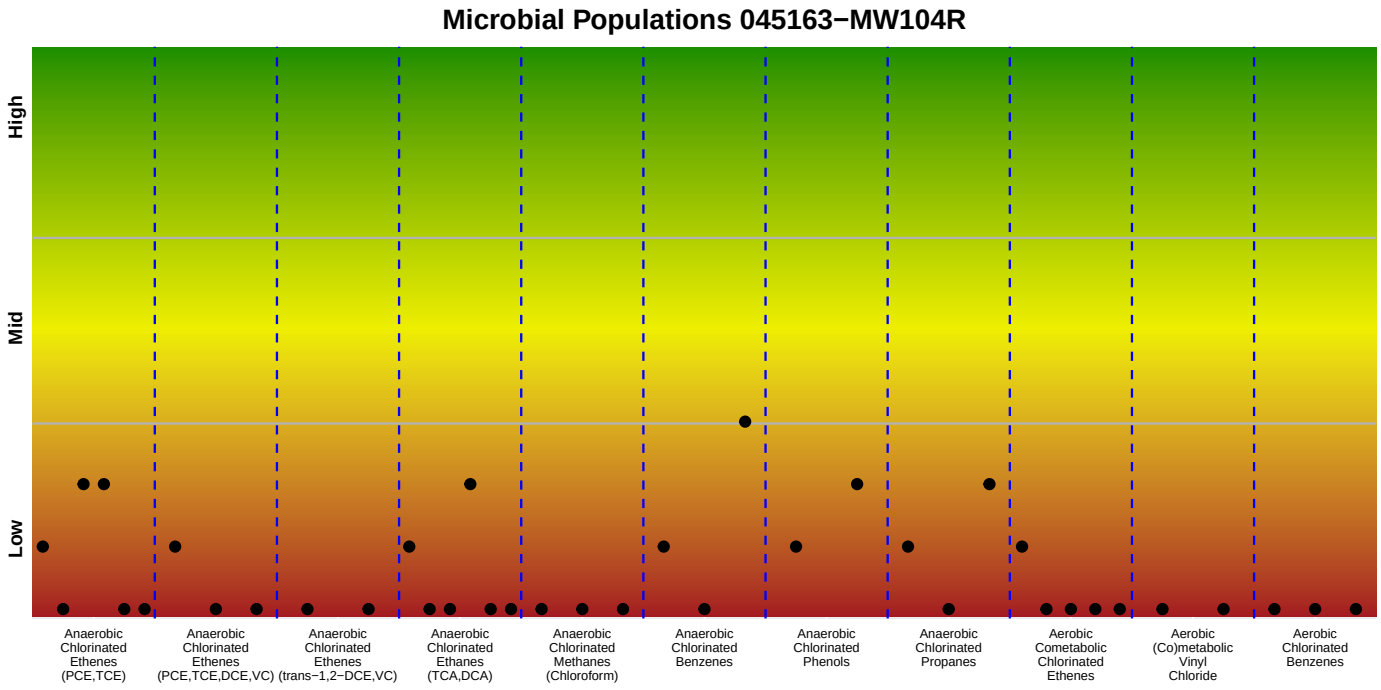

Figure 2: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants. See below to understand the correlation between contaminants and their associated qPCR assays.

Anaerobic - Reductive Dechlorination or Dichloroelimination	
Contaminants	**qPCR Assays**
Chlorinated Ethenes (PCE, TCE)	DHC, DHBt, DSB, DSM, PCE-1, PCE-2
Chlorinated Ethenes (PCE, TCE, DCE, VC)	DHC, BVC, VCR
Chlorinated Ethenes (trans-1,2-DCE, VC)	TDR, CER
Chlorinated Ethanes (TCA and 1,2- DCA)	DHC, DHBt, DHG, DSB[1], DCA, DCAR
Chlorinated Methanes (Chloroform)	DHBt, DCM, CFR
Chlorinated Benzenes	DHC, DHBt[2], DECO
Chlorinated Phenols	DHC, DSB
Chlorinated Propanes	DHC, DHG, DSB[1]
Aerobic - (Co)metabolism	
Chlorinated Ethenes (TCE,DCE,VC)	sMMO, TOD, PHE, RDEG, RMO
(Co)metabolic Vinyl Chloride	etnC, etnE
Chlorinated Benzenes	TOD, TCBO, PHE

[1] *Desulfitobacterium dichloroeliminans* DCA1. [2] Implicated in reductive dechlorination of dichlorobenzene and potentially chlorobenzene.

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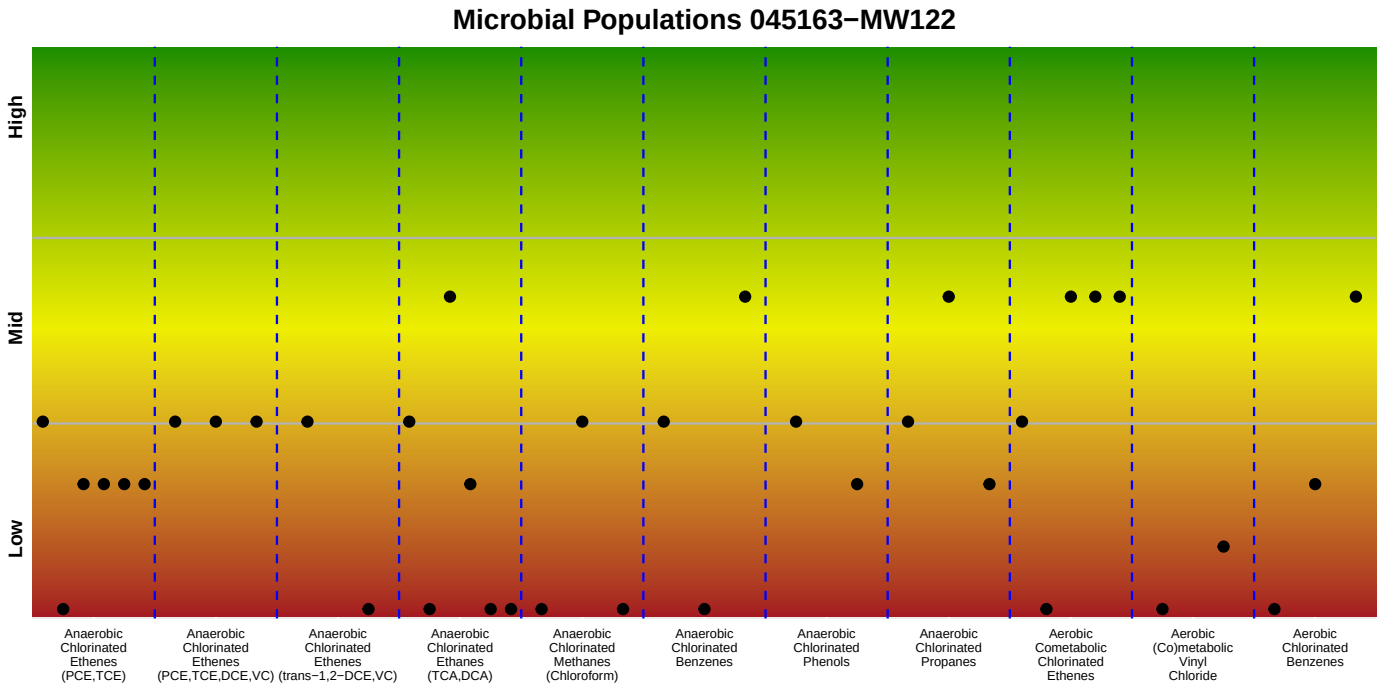

Figure 3: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants. See below to understand the correlation between contaminants and their associated qPCR assays.

Anaerobic - Reductive Dechlorination or Dichloroelimination	
Contaminants	**qPCR Assays**
Chlorinated Ethenes (PCE, TCE)	DHC, DHBt, DSB, DSM, PCE-1, PCE-2
Chlorinated Ethenes (PCE, TCE, DCE, VC)	DHC, BVC, VCR
Chlorinated Ethenes (trans-1,2-DCE, VC)	TDR, CER
Chlorinated Ethanes (TCA and 1,2- DCA)	DHC, DHBt, DHG, DSB[1], DCA, DCAR
Chlorinated Methanes (Chloroform)	DHBt, DCM, CFR
Chlorinated Benzenes	DHC, DHBt[2], DECO
Chlorinated Phenols	DHC, DSB
Chlorinated Propanes	DHC, DHG, DSB[1]
Aerobic - (Co)metabolism	
Chlorinated Ethenes (TCE,DCE,VC)	sMMO, TOD, PHE, RDEG, RMO
(Co)metabolic Vinyl Chloride	etnC, etnE
Chlorinated Benzenes	TOD, TCBO, PHE

[1] *Desulfitobacterium dichloroeliminans* DCA1. [2] Implicated in reductive dechlorination of dichlorobenzene and potentially chlorobenzene.

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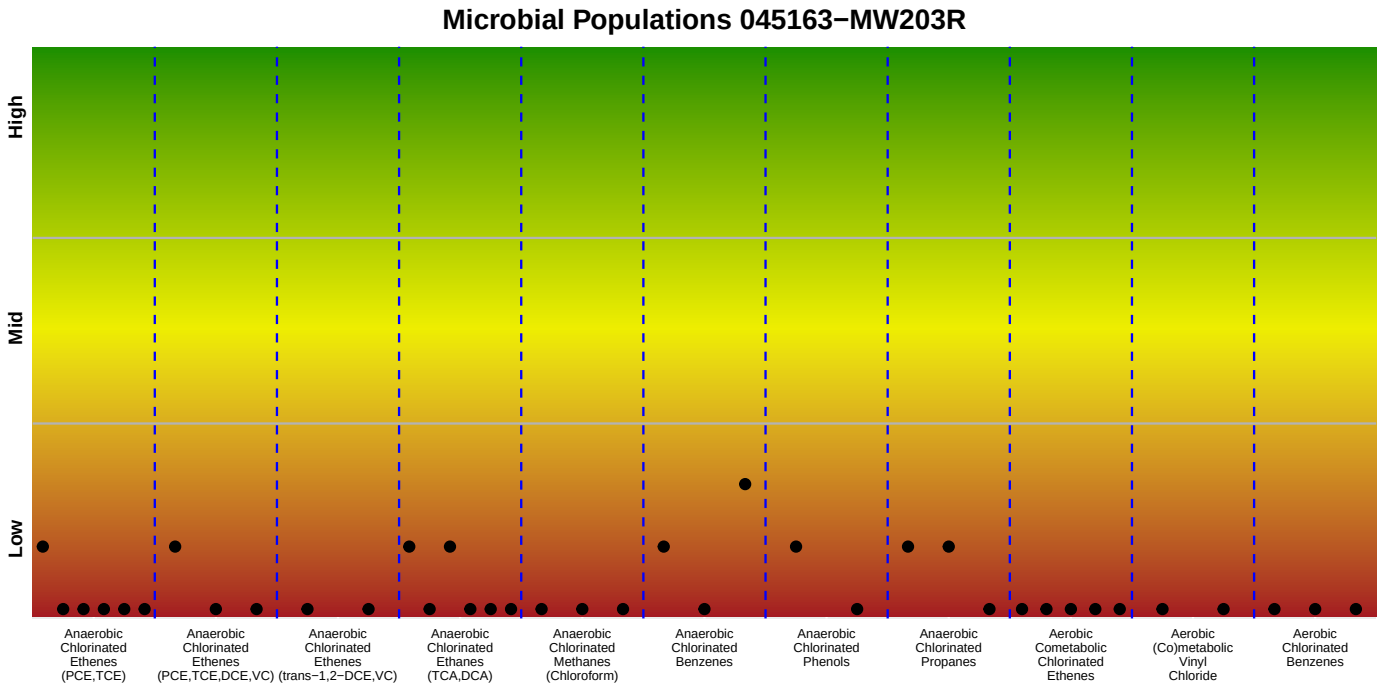

Figure 4: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants. See below to understand the correlation between contaminants and their associated qPCR assays.

Anaerobic - Reductive Dechlorination or Dichloroelimination	
Contaminants	**qPCR Assays**
Chlorinated Ethenes (PCE, TCE)	DHC, DHBt, DSB, DSM, PCE-1, PCE-2
Chlorinated Ethenes (PCE, TCE, DCE, VC)	DHC, BVC, VCR
Chlorinated Ethenes (trans-1,2-DCE, VC)	TDR, CER
Chlorinated Ethanes (TCA and 1,2- DCA)	DHC, DHBt, DHG, DSB[1], DCA, DCAR
Chlorinated Methanes (Chloroform)	DHBt, DCM, CFR
Chlorinated Benzenes	DHC, DHBt[2], DECO
Chlorinated Phenols	DHC, DSB
Chlorinated Propanes	DHC, DHG, DSB[1]
Aerobic - (Co)metabolism	
Chlorinated Ethenes (TCE,DCE,VC)	sMMO, TOD, PHE, RDEG, RMO
(Co)metabolic Vinyl Chloride	etnC, etnE
Chlorinated Benzenes	TOD, TCBO, PHE

[1] *Desulfitobacterium dichloroeliminans* DCA1. [2] Implicated in reductive dechlorination of dichlorobenzene and potentially chlorobenzene.

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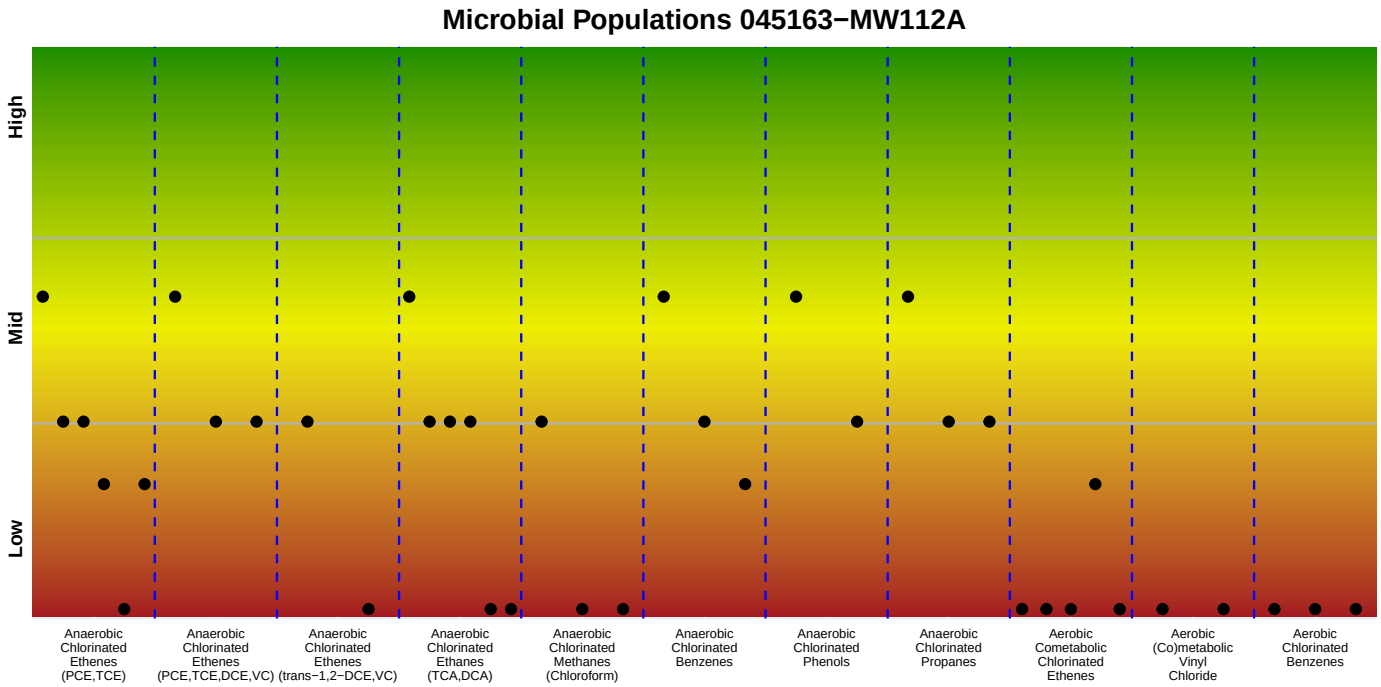

Figure 5: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants. See below to understand the correlation between contaminants and their associated qPCR assays.

Anaerobic - Reductive Dechlorination or Dichloroelimination	
Contaminants	**qPCR Assays**
Chlorinated Ethenes (PCE, TCE)	DHC, DHBt, DSB, DSM, PCE-1, PCE-2
Chlorinated Ethenes (PCE, TCE, DCE, VC)	DHC, BVC, VCR
Chlorinated Ethenes (trans-1,2-DCE, VC)	TDR, CER
Chlorinated Ethanes (TCA and 1,2- DCA)	DHC, DHBt, DHG, DSB[1], DCA, DCAR
Chlorinated Methanes (Chloroform)	DHBt, DCM, CFR
Chlorinated Benzenes	DHC, DHBt[2], DECO
Chlorinated Phenols	DHC, DSB
Chlorinated Propanes	DHC, DHG, DSB[1]
Aerobic - (Co)metabolism	
Chlorinated Ethenes (TCE,DCE,VC)	sMMO, TOD, PHE, RDEG, RMO
(Co)metabolic Vinyl Chloride	etnC, etnE
Chlorinated Benzenes	TOD, TCBO, PHE

[1] *Desulfitobacterium dichloroeliminans* DCA1. [2] Implicated in reductive dechlorination of dichlorobenzene and potentially chlorobenzene.

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Interpretation

The overall purpose of the QuantArray®-Chlor is to give site managers the ability to simultaneously yet economically evaluate the potential for biodegradation of a spectrum of common chlorinated contaminants through a multitude of anaerobic and aerobic (co)metabolic pathways in order to provide a clearer and more comprehensive view of contaminant biodegradation. The following discussion describes the interpretation of results in general terms and is meant to serve as a guide.

Reductive Dechlorination - Chlorinated Ethenes: While a number of bacterial cultures including *Dehalococcoides*, *Dehalobacter*, *Desulfitobacterium*, *Desulfuromonas* spp. capable, of utilizing PCE and TCE as growth-supporting electron acceptors have been isolated [1–5], *Dehalococcoides* may be the most important because they are the only bacterial group that has been isolated to date which is capable of complete reductive dechlorination of PCE to ethene [6]. In fact, the presence of *Dehalococcoides* has been associated with complete reductive dechlorination to ethene at sites across North America and Europe. Hendrickson and Lu have proposed using a *Dehalococcoides* concentration of 1 x 10^4 cells/mL as a screening criterion to identify sites where biological reductive dechlorination is predicted to proceed at "generally useful" rates [7,8].

At chlorinated ethene sites, any "stall" leading to the accumulation of daughter products, especially vinyl chloride, would be a substantial concern. While *Dehalococcoides* concentrations greater than 1 x 10^4 cells/mL correspond to ethene production and useful rates of dechlorination, the range of chlorinated ethenes degraded varies by strain within the *Dehalococcoides* genus [6,9] and the presence of co-contaminants and competitors can have complex impacts on the halorespiring microbial community [10–15]. Therefore, QuantArray®-Chlor also provides quantification of a suite of reductive dehalogenase genes (PCE, TCE, BVC, VCR, CER, and TDR) to more definitively confirm the potential for reductive dechlorination of all chlorinated ethene compounds including vinyl chloride.

Perhaps most importantly, QuantArray®-Chlor quantifies TCE reductase (TCE) and both known vinyl chloride reductase genes (BVC, VCR) from *Dehalococcoides* to conclusively evaluate the potential for complete reductive dechlorination of chlorinated ethenes to non-toxic ethene [16–18]. In addition, the analysis also includes quantification of reductive dehalogenase genes from *Dehalogenimonas* spp. capable of reductive dechlorination of chlorinated ethenes. More specifically, these are the trans-1,2-DCE dehalogenase gene (TDR) from strain WBC-2 [19] and the vinyl chloride reductase gene (CER) from GP, the only known organisms other than *Dehalococcoides* capable of vinyl chloride reduction [20]. Finally, PCE reductase genes responsible for sequential reductive dechlorination of PCE to *cis*-DCE by *Sulfurospirillum* and *Geobacter* spp. are also quantified. In mixed cultures, evidence increasingly suggests that partial dechlorinators like *Sulfurospirillum}* and *Geobacter* may be responsible for the majority of reductive dechlorination of PCE to TCE and *cis*-DCE while *Dehalococcoides* functions more as *cis*-DCE and vinyl chloride reducing specialists [10,21].

Reductive Dechlorination - Chlorinated Ethanes: Under anaerobic conditions, chlorinated ethanes are susceptible to reductive dechlorination by several groups of halorespiring bacteria including *Dehalobacter*, *Dehalogenimonas*, and *Dehalococcoides*. While the reported range of chlorinated ethanes utilized varies by genus, species, and sometimes at the strain level, several general observations can be made regarding biodegradation pathways and daughter product formation. *Dehalobacter* spp. have been isolated that are capable of sequential reductive dechlorination of 1,1,1-TCA through 1,1-DCA to chloroethane [13]. Biodegradation of 1,1,2-TCA by several halorespiring bacteria including *Dehalobacter* and *Dehalogenimonas* spp. proceeds via dichloroelimination producing vinyl chloride [22–24]. Similarly, 1,2-DCA biodegradation by *Dehalobacter*, *Dehalogenimonas*, and *Dehalococcoides* occurs via dichloroelimination producing ethene. While not utilized by many *Desulfitobacterium* isolates, at least one strain, *Desulfitobacterium dichloroeliminans* strain DCA1, is also capable of dichloroelimination of 1,2-DCA [25]. The 1,2-dichloroethane reductive dehalogenase gene (DCAR) from members of *Desulfitobacterium* and *Dehalobacter* is known to dechlorinate 1,2-DCA to ethene, while the 1,1-dichloroethane reductive dehalogenase (DCA) targets the gene responsible for 1,1-DCA dechlorination in some strains of *Dehalobacter*. In addition to chloroform, chloroform reductase (CFR) has also been shown to be responsible for reductive dechlorination of 1,1,1-TCA [26].

Reductive Dechlorination - Chlorinated Methanes: Chloroform is a common co-contaminant at chlorinated solvent sites and can inhibit reductive dechlorination of chlorinated ethenes. Grostern et al. demonstrated that a *Dehalobacter* population was capable of reductive dechlorination of chloroform to produce dichloromethane [27]. The *cfrA* gene encodes the reductase which catalyzes this initial step in chloroform biodegradation [26]. Justicia-Leon et al. have since shown that dichloromethane can support growth of a distinct group of *Dehalobacter* strains via fermentation [28]. The *Dehalobacter* DCM assay targets the 16S rRNA gene of these strains.

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Reductive Dechlorination - Chlorinated Benzenes: Chlorinated benzenes are an important class of industrial solvents and chemical intermediates in the production of drugs, dyes, herbicides, and insecticides. The physical-chemical properties of chlorinated benzenes as well as susceptibility to biodegradation are functions of their degree of chlorination and the positions of chlorine substituents. Under anaerobic conditions, reductive dechlorination of higher chlorinated benzenes including hexachlorobenzene (HCB), pentachlorobenzene (PeCB), tetrachlorobenzene (TeCB) isomers, and trichlorobenzene (TCB) isomers has been well documented [29], although biodegradation of individual compounds and isomers varies between isolates. For example, *Dehalococcoides* strain CBDB1 reductively dechlorinats HCB, PeCB, all three TeCB isomers, 1,2,3-TCB, and 1,2,4-TCB [9]. *Dehalobium chlorocoercia* DF-1 has been shown to be capable of reductive dechlorination of HCB, PeCB, and 1,2,3,5-TeCB [31]. The dichlorobenzene (DCB) isomers and chlorobenzene (CB) were considered relatively recalcitrant under anaerobic conditions. However, new evidence has demonstrated reductive dechlorination of DCBs to CB and CB to benzene [32] with corresponding increases in concentrations of *Dehalobacter* spp. [33].

Reductive Dechlorination - Chlorinated Phenols: Pentachlorophenol (PCP) was one of the most widely used biocides in the U.S. and despite residential use restrictions, is still extensively used industrially as a wood preservative. Along with PCP, the tetrachlorophenol and trichlorophenol isomers were also used as fungicides in wood preserving formulations. 2,4-Dichlorophenol and 2,4,5-TCP were used as chemical intermediates in herbicide production (e.g. 2,4-D) and chlorophenols are known byproducts of chlorine bleaching in the pulp and paper industry. While the range of compounds utilized varies by strain, some *Dehalococcoides* isolates are capable of reductive dechlorination of PCP and other chlorinated phenols. For example, *Dehalococcoides* strain CBDB1 is capable of utilizing PCP, all three tetrach lorophenol (TeCP) congeners, all six trichlorophenol (TCP) congeners, and 2,3-dichlorophenol (2,3-DCP). PCP dechlorination by strain CBDB1 produces a mixture of 3,5-DCP, 3,4-DCP, 2,4-DCP, 3-CP, and 4-CP [34]. In the same study, however, *Dehalococcoides* strain 195 dechlorinated a more narrow spectrum of chlorophenols which included 2,3-DCP, 2,3,4-TCP, and 2,3,6-TCP, but no other TCPs or PCP. Similar to *Dehalococcoides*, some species and strains of *Desulfitobacterium* are capable of utilizing PCP and other chlorinated phenols. *Desulfitobacterium hafniense* PCP-1 is capable of reductive dechlorination of PCP to 3-CP [35]. However, the ability to biodegrade PCP is not universal among *Desulfitobacterium* isolates. *Desulfitobacterium* spp. strain PCE1 and *D. chlororespirans* strain Co23, for example, can utilize some TCP and DCP isomers, but not PCP for growth [2,36].

Reductive Dechlorination - Chlorinated Propanes: *Dehalogenimonas* is a recently described bacterial genus of the phylum Chloroflexi which also includes the well-known chloroethene-respiring *Dehalococcoides* [23]. The *Dehalogenimonas* isolates characterized to date are also halorespiring bacteria, but utilize a rather unique range of chlorinated compounds as electron acceptors including chlorinated propanes (1,2,3-TCP and 1,2-DCP) and a variety of other vicinally chlorinated alkanes including 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, and 1,2-dichloroethane [23].

Aerobic - Chlorinated Ethene Cometabolism: Under aerobic conditions, several different types of bacteria including methane-oxidizing bacteria (methanotrophs), and many benzene, toluene, ethylbenzene, xylene, and (BTEX)-utilizing bacteria can cometabolize or co-oxidize TCE, DCE, and vinyl chloride [37]. In general, cometabolism of chlorinated ethenes is mediated by monooxygenase enzymes with "relaxed" specificity that oxidize a primary (growth supporting) substrate (*e.g.* methane) and co-oxidize the chlorinated compound (*e.g.* TCE). QuantArray®-Chlor provides quantification of a suite of genes encoding oxygenase enzymes capable of co-oxidation of chlorinated ethenes including soluble methane monooxygenase (sMMO). Soluble methane monooxygenases co-oxidize a broad range of chlorinated compounds [38–41] including TCE, *cis*-DCE, and vinyl chloride. Furthermore, soluble methane monooxygenases are generally believed to support greater rates of aerobic cometabolism [40]. QuantArray®-Chlor also quantifies aromatic oxygenase genes encoding ring hydroxylating toluene monooxygenase genes (RMO, RDEG), toluene dioxygenase (TOD) and phenol hydroxylases (PHE) capable of TCE co-oxidation [42–46]. TCE or a degradation product has been shown to induce expression of toluene monooxygenases in some laboratory studies [43,47] raising the possibility of TCE cometabolism with an alternative (non-aromatic) growth substrate. Moreover, while a number of additional factors must be considered, recent research under ESTCP Project 201584 has shown positive correlations between concentrations of monooxygenase genes (soluble methane monooxygenase, ring hydroxylating monooxygenases, and phenol hydroxylase) and the rate of TCE degradation [48].

Aerobic - Chlorinated Ethane Cometabolism: While less widely studied than cometabolism of chlorinated ethenes, some chlorinated ethanes are also susceptible to co-oxidation. As mentioned previously, soluble methane monooxygenases (sMMO) exhibit very relaxed specificity. In laboratory studies, sMMO has been shown to co-oxidize a number of chlorinated ethanes including 1,1,1-TCA and 1,2-DCA [38,40].

Aerobic - Vinyl Chloride Cometabolism: Beginning in the early 1990s, numerous microcosm studies demonstrated

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aerobic oxidation of vinyl chloride under MNA conditions without the addition of exogenous primary substrates. Since then, strains of *Mycobacterium*, *Nocardioides*, *Pseudomonas*, *Ochrobactrum*, and *Ralstonia* species have been isolated which are capable of aerobic growth on both ethene and vinyl chloride (see Mattes et al. [49] for a review). The initial steps in the pathway are the monooxygenase (*etn*ABCD) catalyzed conversion of ethene and vinyl chloride to their respective epoxyalkanes (epoxyethane and chlorooxirane), followed by epoxyalkane:CoM transferase (*etn*E) mediated conjugation and breaking of the epoxide [50].

Aerobic - Chlorinated Benzenes: In general, chlorobenzenes with four or less chlorine groups are susceptible to aerobic biodegradation and can serve as growth-supporting substrates. Toluene dioxygenase (TOD) has a relatively relaxed substrate specificity and mediates the incorporation of both atoms of oxygen into the aromatic ring of benzene and substituted benzenes (toluene and chlorobenzene). Comparison of TOD levels in background and source zone samples from a CB-impacted site suggested that CBs promoted growth of TOD-containing bacteria [51]. In addition, aerobic biodegradation of some trichlorobenzene and even tetrachlorobenzene isomers is initiated by a group of related trichlorobenzene dioxygenase genes (TCBO). Finally, phenol hydroxylases catalyze the continued oxidation and in some cases, the initial oxidation of a variety of monoaromatic compounds. In an independent study, significant increases in numbers of bacteria containing PHE genes corresponded to increases in biodegradation of DCB isomers [51].

Aerobic - Chlorinated Methanes: Many aerobic methylotrophic bacteria, belonging to diverse genera (*Hyphomicrobium*, *Methylobacterium*, *Methylophilus*, *Pseudomonas*, *Paracoccus*, and *Alibacter*) have been isolated which are capable of utilizing dichloromethane (DCM) as a growth substrate. The DCM metabolic pathway in methylotrophic bacteria is initiated by a dichloromethane dehalogenase (DCMA) gene. DCMA is responsible for aerobic biodegradation of dichloromethane by methylotrophs by first producing formaldehyde which is then further oxidized [52].

As discussed in previous sections, soluble methane monooxygenase (sMMO) exhibits relaxed specificity and co-oxidizes a broad spectrum of chlorinated hydrocarbons. In addition to chlorinated ethenes, sMMO has been shown to co-oxidize chloroform in laboratory studies [38,41].

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